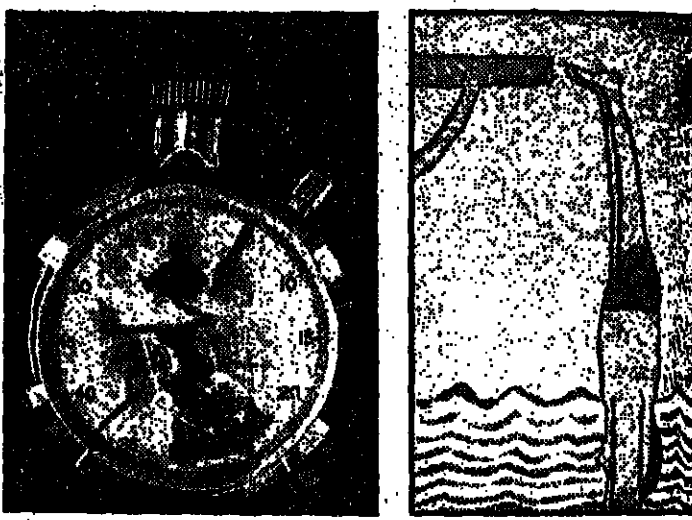
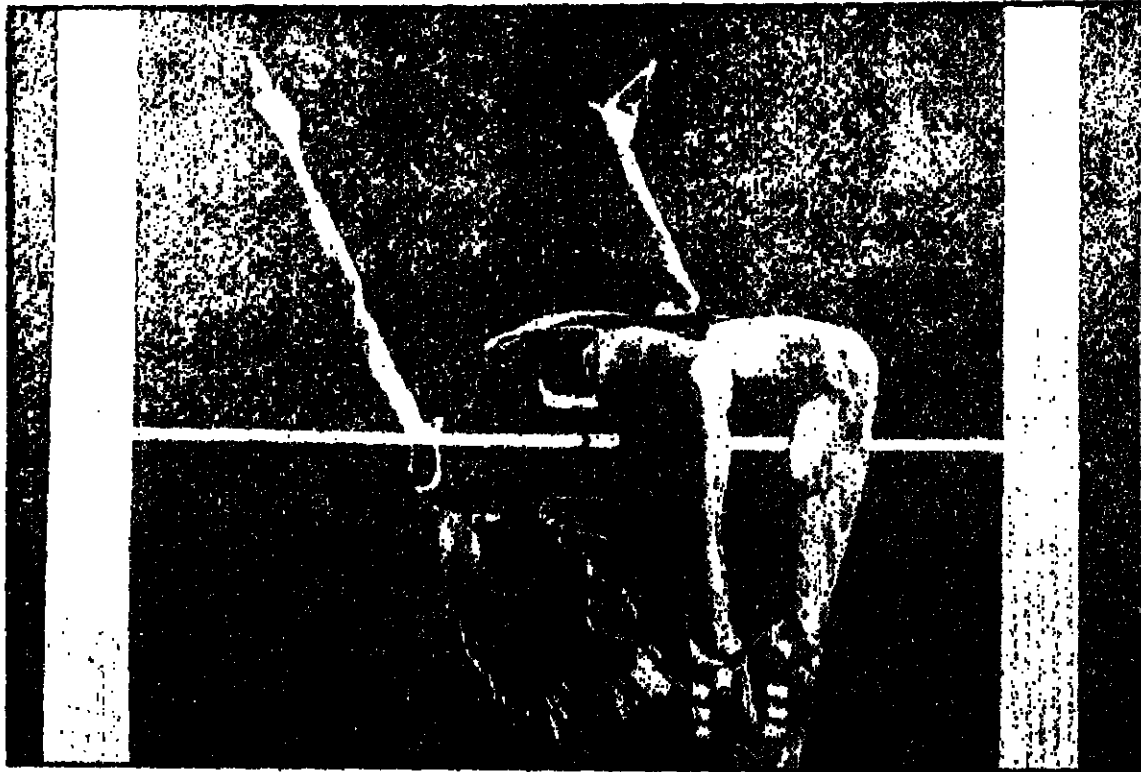


Our sporting life

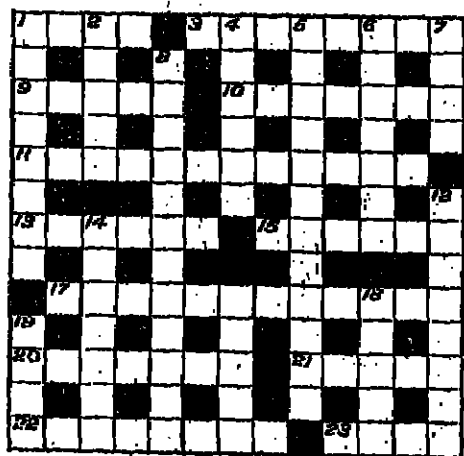


These illustrations of "My Sporting Life" are among 12 paintings by children chosen for a calendar to commemorate the 1980 Olympics in Moscow. They in turn were among the 100 entries in an International Art Competition, open to children between the ages of five and 16, which was run in the Daily Mirror in conjunction with the British Olympic Association National Bencole.

The top 100 paintings have been sent to Russia to compete in an arts competition organized by the USSR Olympic Committee, and the winners will be displayed with work from over the world at a special Olympic Games Children's Art Exhibition.

The calendar is produced by the British Olympic Association and National Bencole and is available from David Knight at Day, Suite 75, Grosvenor Gardens House, 35 Grosvenor Gardens, London SW1, at £2.50 plus postage and packing.

Crossword No 1,169

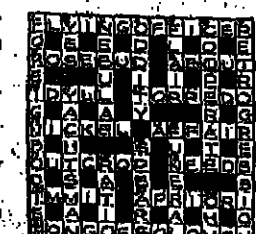


Across

- 1 A prisoner brought back for the festival (4)
- 3 Gave the English a royal line (8)
- 5 You got in on a singular occasion (5)
- 10 In 2 like what (4)
- 11 Half the Light Brigade (5, 7)
- 13 Make a reasonable denial (6)
- 15 Quick as the mail might be if the Post (4)
- 17 Standard emblem for the faithful (8, 4)
- 20 Word play play for play players (7)
- 21 Geometrical houses (5)
- 22 Cavalry colour (8)
- 23 One case she can never get in (4)

Down

- 1 Words reciprocity (4, 1)
- 2 A lady of the sea (5)



Bridge

Two hands from a recent rubber provided a fine example of the first my partner dealt and opened 3 clubs. West bid 3 diamonds, North 3 hearts, East 4 diamonds, and South 4 spades. This was passed to East, who doubled.

I was at fault on the second deal, but managed to recover. Partner (North) opened one diamond, and East came in with 2 clubs. With one of those brilliant hunches which separate sheep from goats I bid 3 no trumps (South), and instantly became a card-carrying goat.

South's opening bid cannot be approved; pre-empting with two-suited is asking for trouble, and it is usually far better to bid slowly and find the right fit. West also bid badly, the better bid being hearts so that diamonds can later be shown if necessary. Neither of these errors mattered. In fact, since both sides found their fit, but that was by chance, not design.

East's double was potentially excellent. If his partner had understood it to be Lightner and found the trump lead, NS would have been down. What actually happened was that West led a heart, thinking his partner wanted dummy's suit led, and declared himself the 10, an unnecessary play which could hardly gain.

With the aid of the club finesse the contract is now only 2 tricks, but at least 2 club ruffs in my queen, but I knew this East to

be a conservative player and overcalls were strong. He could lead the king of spades and put the queen of diamonds also for bid.

So I took the ace in dummy and led the jack of diamonds. There a legitimate chance that an opponent held the queen doubled but there was also a chance that East might be tempted to lead from Q-x-x, and this is what happened: a piece of winning play which presented me with the contract.

Of course East could not gain by playing the queen. I held A-x in diamonds and not dare let the jack ride. I would put me four down. I was sure to be more likely to succeed with the ace and maybe the finesse the other way, but I was wrong.

However, the real mistakes by defence came at the beginning. South led the 4 of clubs, the queen, from this holding, all East has to do is duck the trick. South must win 6 tricks, and effect would have been achieved if East had ducked second trick, even after the queen had initially been led.

I was not especially proud of deal, my 3NT bid was probably worst of the evening, but I was delighted. East and West defended themselves by recouping ancient slogans: "lead the ace, your partner's suit", and "an honour with an honour", and had learnt those at the age of 10. Mother's knee, or some other joint.

John Gray

THE TIMES Educational Supplement

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Heads could win extra pay rise

Union leaders believe that headteachers will get a bigger pay rise than other teachers, following the Clegg Commission's decision to pay ward sisters more than nurses. On Monday, the unions entered Burnham negotiations with a demand for an immediate 10 per cent rise on account. Richard Garner reports.

Nurses' award sets precedent

Headteachers could have proportionately bigger pay increases than other teachers when Professor Clegg finally announces his recommendations—probably at the end of March.

Union leaders believe this following the 25 per cent pay rise for ward sisters included in the Clegg Commission's pay award for nurses. This compares with an average increase of only 19.5 per cent for other main grades.

One union leader, closely involved in the Clegg Commission, said: "They were seen as the linchpin of the nursing profession. The headteacher is our ward sister."

Union leaders also believe that Clegg will move towards restoring the differentials eroded by recent pay policies—and towards rewarding senior teachers for their responsibilities.

However, one controversial aspect of the report could be the section which deals with the hours that teachers work.

According to union sources, the one question Professor Clegg asked teachers when he met them was whether they considered the 40-hour average working week for teachers—as revealed in a survey by the National Foundation for Educational Research—to be a contractual commitment. They feel Clegg may recommend tighter controls.

A spokesman for the Clegg Commission said this week: "The method being used to compare teachers' pay is similar to that used for nurses". But he added:

"Each referral (to the Clegg Commission) is taken on its own. There is no pattern of anomalies."

Last Friday Professor Clegg ruled out the possibility of an interim report on teachers' pay because he felt he needed more time to assess their case.

This decision led to a demand by union leaders at a meeting of the Burnham committee on Monday for an immediate 10 per cent pay increase.

The National Union of Teachers and the National Association of Schoolmasters/Union of Women Teachers argued that this should be backdated to January 1 in order to tide teachers over until the announcement of the Clegg award.

The Clegg award will be paid in two equal stages—one from January 1, 1980, and the other on September 1.

Management representatives told the teachers to wait until January 24, by which time the Local Authority Committee of Service Advisory Board will have met to consider the claim. Any increase will reach teachers in February. Even if an agreement had been made on Monday, this would have been the earliest they could have received it.

Mr Fred Jarvis, general secretary of the NUT, presenting the case for an immediate 10 per cent rise, said teachers had been hit hard by—in particular—increases in the mortgage rate and inflation.

In addition, management and unions had agreed in their evidence to Clegg that there should be an increase from January 1, he said.

Mr Carlisle bases core on maths and English

by Bob Doe

The Government wants a common curriculum consisting of at least 10 per cent of both English and maths, 10 to 20 per cent of science and a foreign language for at least two years of secondary schooling, according to their Framework for the Curriculum, published this week (see page 9).

Mr Mark Carlisle, the education secretary, says local authorities should make their curriculum policies known and collect information on the curriculum offered in their schools every year. Schools would improve if they published their aims, the consultation document says.

HM Inspectors went further in their comment on the common core plan. They say it is necessary to go beyond just naming the subjects to be included. National and local agreements on exactly what knowledge and skills every child should have were urgently required.

Teachers associations reacted with little surprise to the two documents. The National Union of Teachers said the suggested "framework" was common practice in schools where resources permitted.

The NUT was worried by the Government's intention to match education to national needs. "National boards can vary enormously depending on who is doing the defining", the union said.

Mr John Sayer, president of the Secondary Heads Association said the documents were fair and moderate, setting a consensus which existed in most schools but which was not shared by those responsible for distributing resources.

The National Association of Head Teachers wanted to know how science and modern languages could be part of the core unless more teachers were recruited and more resources made available to these subjects.

The time allocations could only be a guide since it was up to heads to decide the best use of staff and resources.

Mrs Angela Rumbold, chairman of the Association of Metropolitan Authorities' education committee, welcomed the acknowledgement by Mr Carlisle that local education authorities were more than nominally responsible for the curriculum of their schools and colleges.



Mark Carlisle addressing the North of England Conference last week. Full report page 10.

Nurseries need complete overhaul—psychologist

by Mark Jackson

Dr Barbara Thizard, a leading child psychologist, this week criticized the present style of nursery education and called for a complete rethinking of its aims and content.

Dr Thizard, reader in education at London University's Institute of Education, told the British Psychological Society's educational and psychology division at Southampton this week: "Nursery education as it is practised in this country today is held out as essential for the intellectual development of children. I cannot support that view."

Dr Thizard said that nursery schools were needed and must not be cut back. But teachers and psychologists were wrong if they believed that:

"the home was a less effective learning environment than nursery school; that the sort of language used in working-class homes was inadequate and had a marked effect on a child's later performance; that it was more important to provide children with a rich choice of activities than to get them used to completing a task; and that children got more chance to play with adults at nursery schools than at home."

The Institute's Thomas Coram research unit, where Dr Thizard has been studying a large

This week

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مكتبة من الأصل

The importance of Mr. Carlin's *From end to end* curriculum lies in the clarity of choice which it signifies, not in the actual words it commits to print. It is clearly labelled as a consultative document. Perhaps the idea is to produce something more clear-cut when the consultations are complete. But perhaps not: if the DES are wise they will continue to prefer vagueness to precision and leave it to the LEAs and the schools to put flesh on the skeletal framework.

At one level of consideration, this is a feeble document. The sections on the aims of education are valueless. They may be, conceptually, logical first steps in the sequence of ideas which leads to some sort of agreed curriculum policy, but what emerges? Either the HMI's eight flatulent "areas of experience"—from which nothing particular can be deduced about school practice—or the six platitudes which already sagged limply in the pages of the Green Paper, two years ago.

Article now tells LEAs that "schools are likely to be more effective in achieving their curricular aims if these aims are clearly set out in writing". Nothing in this consultative document supports this confident statement; if anything, it confirms previous doubts about time-wasting efforts to define educational aims.

When it comes down to cases—to the main ingredients of the school timetable—the *Framework* is more to the point. English and mathematics are included in the core of essential subjects throughout the period of compulsory schooling (thereby endorsing present practice as recorded by the HMI's Secondary Survey). Neither maths nor English should occupy less than 10 per cent of school time. This is sensible, if uncontroversial.

The inclusion of science to 16 in the core raises obvious questions about staff. The implication is, presumably, that the first three years would be a broad course which could be taught by science graduates other than the scarce physicists and chemists. For the last two years, the DES favours "integrated science courses based on two or more of the specific science subjects": the time allocation of 10-20 per cent of school time indicates the importance attached to extending science education for all—and the lack of qual-



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A firm framework, but decently ragged round the edges

field teachers and laboratories to do this in the short-term.

For the rest, the framework is far from firm. Modern languages get a pat on the head, and should be offered to all. (But see Harry Rice on p.17) "Preparation for adult and working life" earns its own heading in recognition of spurious expectations but is very properly subsumed in "such areas as craft, design and technology; the arts, including music and drama; history and geography... moral education, health education, preparation for parenthood and an adult role in family life; careers education and vocational guidance; and preparation for a participatory role in adult society". At one stage or another, says the document, "all should find a place in the education of every pupil". Careers education and guidance should be provided "for all pupils, including the most able and those in the sixth form".

On these matters the framework gives no guide as to how much activity would be required to satisfy its general requirements. It places much weight on the concept of a balanced curriculum and, therefore, on the provision of options within a variety of alternatives which ensures

that the chosen programme covers enough of the field. This, as the secondary survey showed, is what most schools do already; this will be used to lever the rest into line.

This said, the strength of the document does not lie in the terms of the framework as it is propounded here but in the preliminary message it sends to LEAs and schools. This is that to carry out their responsibilities they must not only work out a curriculum policy but also collect information from the schools annually to monitor it and make sure that curriculum policy is matched by human and material resources. This demands a major role-change on the part of the local authorities—a change in curricular supervision which envisages much more active intervention by LEAs and their advisers (to complement the more active part which HMI is to play). Given present financial curbs, it is not clear how well prepared local authorities are to take this on. If it means anything, it must mean more rather than fewer expert advisers and administrators.

For their part, the Inspectorate's *View of the Curriculum* is a careful re-statement of much which has come out of

other surveys. The primary school curriculum is commended: given more scrutiny it would be about right. They clearly do not favour any move to narrow the primary field of vision or concentrate it intensely on the basics.

At the secondary stage they are ready to support a coordinated attempt to achieve a standard curriculum. The Fourteen Points are meant to carry movement towards consensus beyond the Secondary Survey. They do not clarify the notion of the Core—sometimes it seems to mean subjects (or areas) which must be covered all the way through the 11-16 compulsory period; at others it seems to cover essential subjects (or areas) to which access must be assured but not necessarily all through the five years; the table-making and syllabus building should provide a "balanced" combination of compulsory and optional subjects some of the options being more optional than others. Much virtue in a "balance" which begs a multitude of questions.

Thus history appears to slide into a compulsory sphere in the final secondary years, but does not necessarily belong to a more essential category than geography. Nit-picking of this kind, of course, exactly what the search for consensus will mean if the argument about core is brought down from the lofty heights "areas of experience" to the "maple chaps" which pupils have eventually encountered.

When all is said and done, however, what is now proposed is pretty much what can hardly be said to be unresolvable. True, some of it is liberally mixed with the politician's brand of curricular hokum, but is this any worse than curriculum specialists' hokum peddled by academics and HMI? And by what explicit requirement that curricula, planning and the provision of cashed teachers must go together, it actually strengthens the hands of schools and those who provide professional leadership. If, in return, they explain their curricular aims and activities more clearly, this would be a desirable price to pay.

comprehensive schools were doing a good job in nurturing the potential of every child. But to predict whether specific doors to pupils, English and science will produce better Britain, it is advisable to turn back to what actually happened to educational policy in the fifty years before that.

The results of the massive Nuffield mobility survey are also published in the report and introduced in the TES (page four). Professor Halsey, who analysed the survey, educational data. The overriding—and optimistic—conclusion of his *Origins and Conditions*, which was based on interviews with thousands of men living in England and Wales in 1972 who entered secondary schools roughly between 1920 and 1963, is that the efforts of educational policy throughout that period did little to improve equality of opportunity.

The 1944 Act, which was the main educational reform of the period, brought equality in the 1950s, but the abolition of grammar school fees and "secondary education for all". Middle-class boys in the 1950s still three times as likely as working-class boys to get into selective secondary schools "exactly as they had been in the 1920s".

The survey data stop short of the widespread introduction of comprehensive schooling, but Halsey does not expect the Circular to lead any more effectively to the Butler Act towards equality of opportunity within the present class structure, especially if private schools continue to exist alongside comprehensives.

So what pointers does Halsey's evidence give to the effectiveness of education policy in the 1950s? It rather depends whether it is still striving towards the meretricious aim of equality of opportunity he has assumed, and politicians who have pressured for better maths and English have conspired to set the sights on rather different goals.

No comment

Nothing said in this discussion paper is to be construed as implying Government commitment to the provision of additional resources. —From the HMI's *A View of the Curriculum*

NEWS

Avon and Trafford hardest hit in dispute over staffing cuts

Thousands sent home in timetable row

by Diane Spencer

Thousands of children were sent home from school this week at the beginning of term as teachers refused to operate new timetables introduced because of staffing cuts.

Trafford in Greater Manchester, and Avon were the worst-hit areas but at least 14 other authorities are also affected.

In Trafford both the National Union of Teachers and the National Association of Schoolmasters' Union of Women Teachers are working to last term's timetable, and, with the Assistant Masters and Mistresses Association, are refusing to cover for absent colleagues.

The education authorities in Trafford and Avon have warned the unions that their pay will be docked as they are in breach of contract.

The timetable changes in Trafford had come from the council's decision to economize by axing the equivalent of 90 full-time teaching jobs. A single school 350 out of 400 pupils were sent home on the first day of term.

Mr Ray Holden, the North West regional officer for the NAS/UNT, said: "Trafford want the same service with fewer personnel—they are letting the service limp along and we are not prepared to be the crutch."

A NUT spokesman said teachers "cannot paper over the cracks in education caused by the cutbacks". The union was upset at the suggestion made by the authority, in a circular sent out before Christmas, that parents should be asked to help to supervise children.

The authority estimates that between 90 and 100 schools (out of 126) are affected by the action and potentially three-quarters of the school population of 40,000 children.

In Avon the authority estimated that as few as one-third of its secondary schools had been affected by union action.

Mr Chris Waddell, a drama teacher at Hurdcliffe comprehensive school, Bristol, one of the worst affected in the area, said they had lost four teachers from the timetable. This had meant scattering

two first year classes among other first year groups. It was educationally disastrous to revise staffing quotas in the middle of the year, he said. Remedial and maths classes had doubled in size and a lot of teachers had to take subjects for which they were not qualified.

The NUT will be meeting the authority in Bristol today to discuss the loss of 300 jobs and other effects of the spending cuts.

The NUT intends to step up the action it began last term in Leicestershire, where 180 jobs are threatened members refused to take classes for absent colleagues because of the worsening teacher-pupil ratio. This term, starting on Monday, they hope other unions will support them.

In Sutton, NUT members are refusing to cover for absent colleagues and to take classes over an approved size. In Ealing and Hillingdon similar action is being taken in protest over the authorities' refusal to provide supply teachers. No cover action continues

in Warwickshire, Surrey, Dorset, Bedfordshire, Harlow, Newham and Buckinghamshire.

Warwickshire members of the NUT are threatening to strike in seven schools from Tuesday in protest at the authority's reprimand of one of their members.

The dispute arose last term when teachers of Milly Middle School, Nuneaton, sent children home one afternoon as part of a long-standing "no-cover" action as instructed by their union.

Mr Charles Hollbrook, the head, who is also a local official of the NUT, refused to instruct his staff to continue lessons as normal after a formal request by the authority.

He was suspended for two days and reprimanded. The teachers had half a day's pay docked which they claim was unprecedented.

The union wants the reprimand withdrawn and their members paid. The authority said the union met twice this week to try to resolve the deadlock. The NUT will call more schools out the following week if the matter is not settled.

Tug-of-war over the purse strings

by Sarah Bayliss

Financial implications of the new Education Bill have stirred old rivalries about who controls education spending—education officers or local government finance departments.

The profits, which clauses in the Bill will make possible—on school meals, transport and special services provided by the bigger authorities—are already being jealously guarded by the education service in at least one northern authority.

In Leeds, Mr Patrick Crotty, chairman of the education committee, has rebuffed a recommendation from the district's finance department that education profits be clawed back and pooled centrally, rather than offsetting education cuts.

"It would seem that anything we do to increase income they will try and grab centrally", Crotty said. "I have said not on your nelly."

Clawback is nothing new in local government; the sale of school sites has brought cash to the central pools in the past.

However, the Education Bill seems to have created a big potential for creating new money at a time when all services are in need.

Mr Mark Carlisle, the Education Secretary and his minister Lady Young have said that increased income from school meals and transport should be used to blunt the impact of cuts in education and on improving educational standards.

A strong minded committee chairman may be able to carry this philosophy through.

But there is a tide of feeling among officers, in particular, that this is not the way local government finance works.

Mr Noel Hepworth, the new director of the Chartered Institute of Public Finance and Accountancy, said it seemed most likely that increased income would be balanced by a corresponding reduction in rate and grant aid to the education budget.

Local authorities are corporate organizations running a variety of services. They always look at distribution from a central point of view", he said.

Leeds the potential new income—such as the increase in meal charges from April 1 of the Bill is through by then, has not been worked out yet "even unofficially". The number of children who would stop buying more expensive meals is another imponderable.

However, Mr Crotty has indicated that more than £1m could be raised on meals. He is adamant that such money should benefit the education service and no other.



It's fun, but does it do them any good?

Major rethink urged on nursery schooling

continued from page 1

and were less likely to be encouraged to generalize from their immediate experiences, they usually ended up with an effective and confident command of language. Attendance at a nursery school, notes it, has some special programme made no difference to their language development.

The size of nursery classes meant that children could not have as much chance to play with adults as they did at home, where they had to learn to adapt to an adult world. Parents had much clearer ideas of what they wanted their children to learn, and tried to equip them with specific skills. They insisted that children learn to complete tasks properly, while teachers believed that they must not interfere with the way children chose to go about their activities.

"Pre-school education is dominated by this maturation view of providing a rich environment in which the child can browse. I believe that

the child is bound to get less profit from it, but it seems quite difficult for teachers to change their view", said Dr Tizard. "I seriously question whether this kind of nursery education is meeting the needs of children in any way. We need to rethink what nursery schools are for and how they should be run, and to have curriculum development."

Asked if she was worried as to how her views might be received in the present political climate, Dr Tizard said she was convinced that nursery schools were needed but that no good could come from propagating the wrong beliefs about their role. "I think children need nursery schools and mothers need them even more. We ought to see how they can be made better."

Afterwards she told the TES: "I would be very angry if my views were construed as an argument for reducing the resources for nursery education. The converse is true: we need more resources to provide better nursery schools."

Record jobless

More teacher trainers will lose their jobs this year than at any other time since the rundown of colleges of education began, an official of the lecturers' union said this week.

Miss Jean Boeck, education secretary of the National Association of Teachers in Further and Higher Education said: "By this time next year there could be well over 1,000 known and registered unemployed college of education lecturers". —TES.

Alternative to A and O levels may be tested

by Richard Garner

A four-year experiment may be started in schools and colleges next year to test an internationally recognised alternative to A and O levels for pupils over 16.

Under the experiment, the International Baccalaureate, which is at present only operating in a dozen schools and colleges, would be introduced in between 40 and 50 schools and colleges for a trial period.

Mr Alec Peterson, Vice-President of the International Baccalaureate Office, speaking at a conference at London University's Institute of Education, said: "We are emphatically not looking for an eighth or ninth formula for the replacement of A levels throughout the country."

"What we are investigating is the feasibility of a limited experiment with the monitored use of IB as an alternative to A levels in 40 or 50 schools or colleges in this country for a period of four years."

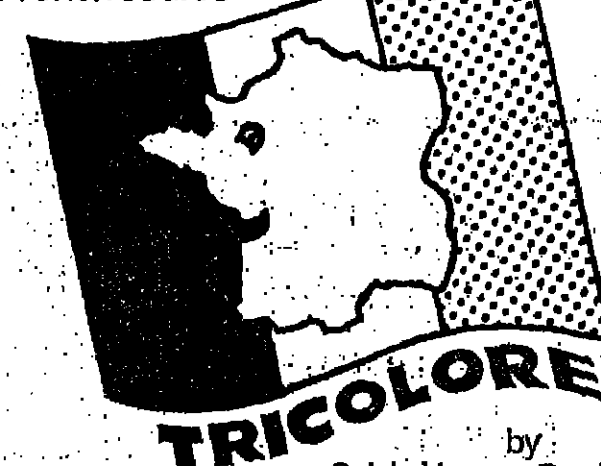
Pupils using the system continue with a broader based education—studying six subjects, three at a higher level and three at a subsidiary level.

The scheme could start in September next year, the conference was told.

Scholarships offered

The Stanley Hewett Memorial Fund is offering three scholarships of £250 each to student teachers and young teachers in the year beginning September 1980. Particulars and forms (stamped addressed envelope) from K. Baird, Twyford House, Colsterworth, Grantham, Lincs.

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Comment

Finniston points the way for engineers

The wretched performance of British industry over a long period of the recent and not recent past cannot be explained by any single weakness. The sum of social attitudes which have come together to inhibit growth, adaptability and efficiency, can be seen most clearly in British (or at any rate, English) attitudes towards engineers and engineering. The Finniston report on the engineering profession is, therefore, a powerful indictment of modern industrial Britain.

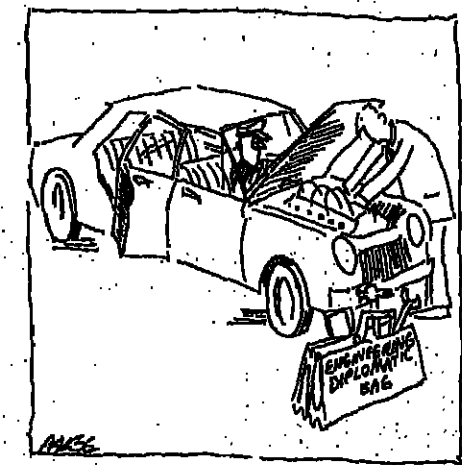
Finniston's brief only extends to engineering, but the analysis and remedies go far beyond engineering to wider aspects of education at secondary and post-secondary levels. The committee examined the professional formation (they liked the Continental usage) of engineers in a range of overseas industrialised countries, and concluded that all of them—all our international competitors—had better systems of education and training for engineers than Britain has. This, they said, was in large measure because in Britain the universities looked after the initial "formation", and their ideas were dominated by an academic concern with scientific knowledge, while abroad more practical and down-to-earth consideration of Technik provided the all-important collocation. They also blamed the improvident attitudes of the engineering employers.

There is, of course, something very familiar in this analysis: it is that very familiarity which makes it shameful, for the shortcomings of engineering education are not something now discovered for the first time; but part and parcel of the pattern of British higher education. They are systematic—the

logical outcome of structures which are well known; in a sense, they reflect the best, not the worst, aspects of the British academic scene.

It is clear that there are no easy, or quick ways of remedying all this. Engineers are poorly regarded—perhaps the Finniston criticisms could be seen as a justification of this. Law regard as things now are—therefore they are not often well paid and seldom in positions of large general responsibility. Science and technology is taught in schools against a background of the present university expectation—and the present shortage of science teachers, and the lack of teachers with experience and training to relate their specialist teaching to engineering matters.

To do something at the school level would become a great deal easier if the committee's proposals for higher education courses and qualifications were carried out, and if there were a strong Engineering Authority to cut through the entrenched resistance of those who, in the quotation from Machiavelli which introduces the Committee's own summary of the report, "have done well under the old conditions". The recommendation to give engineers an extra £250 a year on top of the mandatory, means-tested, student grant will be hotly contested by others, no less worthy groups. But it is worth a try: such a symbolic gesture would be crude and simplistic, but at least it would serve public notice to the next generation that some radical changes were afoot.



Locked in combat

In present circumstances, there can be nothing surprising in the fact of now reports about disruption in schools where LEAs like Avon and Trafford, have made staffing cuts in mid-year. The cuts may be necessary to keep within reduced budgets, but nothing is going to make the NUT and the NAS cooperate. The pressure of politics of teacher employment is now based on: if the unions feel no action, LEAs would take this as a green light for even bigger cuts. The LEAs and the teachers are equally responsible for the scandal of children sent home. Each will try to lay blame on the other but neither is wholly culpable or wholly blameless: both are miserably locked in a self-destructing conflict.

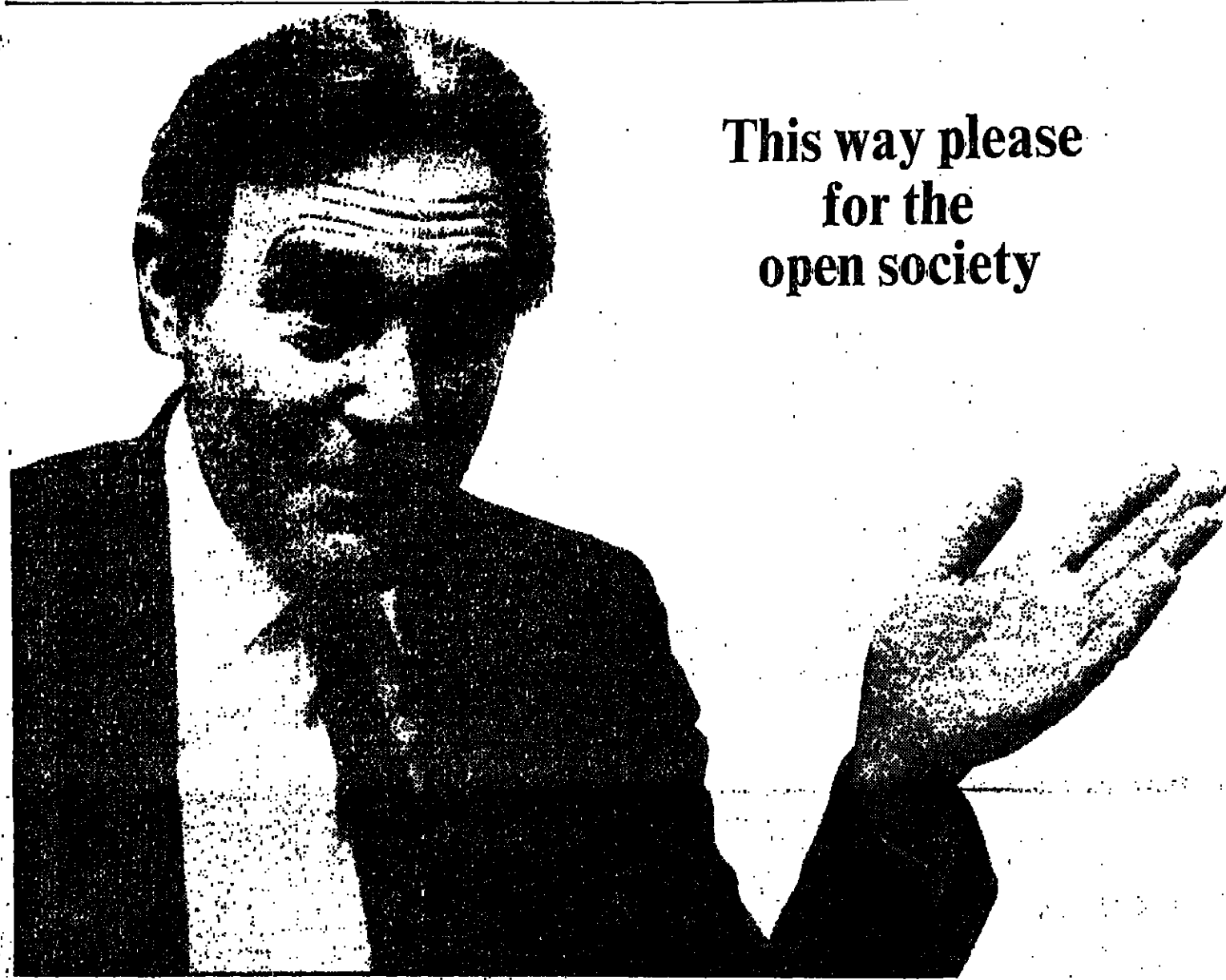
It is, however, ironic that these widely reported incidents should take place just when the Clegg comparability exercise is entering its concluding stages. A few years ago Houghton sought to link the case, for higher salaries to an expression of professional obligation. It may well be that Clegg will do the same. Yet Realpolitik forces local politicians and teachers to act out the clichés of industrial warfare in ways which wreck the gods wish to destroy.

A class of your own?

The first week of the first term of the 1980s has seen the publication of a clutch of papers which aim to bring the school curriculum more into line with the needs of children and society. They reflect the preoccupations of the 1970s, doubts as to whether primary and

Platform

A. H. Halsey, professor of social and administrative studies at Oxford, reviews his original research on social class and education, published this week in *Origins and Destinations*



This way please
for the
open society

A society may distribute its opportunities according to many different principles. Primogeniture is a familiar device and we retain it for the monarchy, the principle being that the first born has the right of inheritance. Some form of inheritance of ascription has been the dominant traditional principle in the whole history of human society—that is, until the modern age of industrialism and equality.

But now ascription is morally on the defensive, assailed on every hand by the egalitarian protests and claims of class, region, and gender. Of course, the egalitarian impulse was always there to motivate the guilt and compulsion of the privileged as well as the resentment and ambition of the disadvantaged. The role of industrialism has been essentially that of a catalyst—providing both encouragement towards openness and resources for political redistribution of opportunity.

Industrialism requires, or at least encourages, a more complex division of labour and a more mobile labour force. It gives opportunity to new skills, makes old ones obsolete, releases knowledge and its acquisition from familial and quasi-familial networks and above all generates the economic surplus which makes possible the pursuit of equal opportunities through governmental spending. At the same time, however, industrialism, especially in capitalist countries of the West European type, generates a class system and it is the paradoxical nature of class to be at once open and at the same time tending towards closure because parents seek to convert their own class advantages into enhanced opportunities for their own children.

Thus two moralities live side by side. All good parents wish to do their best for their own children; but all good citizens acknowledge

the fairness of equal chances for all children. In consequence, the family and the market are pitted against the state and the bureaucracy in struggles for scarce goods and services, each acting as the agent of principles which, in the end, are contradictory.

Modern educational systems can be thought of as, from one point of view, the instruments used by the state in a grand strategy of egalitarianism. The 1870, 1902 and 1944 Education Acts are stages in the development of that strategy. The underlying theory has been that life chances depend upon education, that education controlled by the state could overcome the inequalities of family, neighbourhood and class, and that education could be equalized by expansion. The application of this theory is essentially what my colleagues Anthony Henth and John Ridge and I have been exploring in our *Origins and Destinations*.

We were enabled to do so on the basis of our national survey on mobility at Oxford which gave us a sample of familial, educational and occupational biographies collected from 10,000 men in England and Wales in 1972. By the device of arranging these records of individuals in birth cohorts, we were able to reconstruct the experience of a cross-section of boys passing through the educational system as it developed from the First World War to the 1960s. We were, in effect, able to observe, in the natural

laboratory of the history of one country, how far a social and political theory of Victorian origin had turned out in practice.

British in this century, at least up to the 1960s, has been a country of continuing economic growth and social mobility. Against this background we can ask the two questions which derive from the theory of equality through expansion and which refer to the principles of allocation. First, is there a movement towards equality of opportunity, and, secondly, is there a movement towards allocation by merit?

Illustrative answers are that the sons of the service class had more than three times the chances of a selective secondary education (private or state) in the 1960s, just as they had in the 1920s; and, making allowance for merit as measured (however contentiously) by IQ, the same chances for selective secondary education were more than two to one in both historical periods.

The answers to both questions can be no more than negative. But the details are both complex and interesting. For example, the statutory raising of the school-leaving age to 15 in 1947 ensured the important equality for all of a 10-year schooling. At the same time this legislation, like the guarantee of secondary schooling after 1944 or the further raising of the leaving age to 16 in 1974, just as necessarily produces

an inequality between generations. Egalitarian legislation in a strategy of expansion cannot avoid discriminating against age at least until a new 'steady state' is reached at the death of the last survivors of the reform. And incidentally, it may be relevant to notice that a contracting future would produce the opposite effect. Moreover, legislation on the distribution of scarce goods is typically more of a confirmation of social trends than a socially equal benefit. Thus in the period we have studied the service class set a pattern of increasingly extended secondary schooling, following a path along an elongated S or logistic curve towards saturation (of approximately two-thirds) and the path was trodden later by the intermediate and finally by the working class.

These patterns of expansion are accordingly complex in their effects on social equality. New opportunities such as free grammar schooling after 1960s are seized initially more by the middle than by the working class. There seems to be a logic of logistic curves such that the hierarchy of classes is transformed by egalitarian expansion into a moving class with the service class in the rear, passing points of consumption, or in this case, educational welfare, which had been reached by the more advantaged classes at an earlier point in history.

Meanwhile, from the point of view of equality of chances in the labour market, the terms of competition move on. Indeed, it is useful, if still more complicated, to see education as an ordinary consumption good. Competition for jobs on this view is determined by one's position in the educational queue rather than by absolute amount of schooling or

qualification. In so far as education is a positional good and gives the class inequalities of *de jure* access to new and superior opportunities, class equality is an unreceding target.

On the other hand, the creation of 'cultural capital', in a metaphor much favoured by French writers such as Pierre Bourdieu, a massive fact of modern British educational history. Our analysis has not led us to accept any grand claim for Bourdieu's thesis that, in modern capitalist countries, cultural capital is the means of reproducing the social classes. Of course education provides mechanisms for families to pass on their advantage. But accumulation and discrimination are at least as notable a feature of educational expansion. In Britain at least there has been much upward intergenerational educational mobility and the overriding feature of the state selective schools throughout our period has been the presence in them of a dominant element of first generation grammar and technical school boys (and their novitiates in the 'national cultural heritage').

No such for the complexities of social equality. But the terms of educational justice shared by conservatives and radicals have been those of equal shares for equal merit. We have tackled the issue of merit here by comparing the real world with a world in which schooling is allocated exclusively on meritocratic grounds. For the purposes of analysis and argument we have accepted IQ as the measure of merit and estimated its distribution. We have then compared the real world of distribution of schools and colleges with the hypothetical world of a meritocratic system.

It is important to emphasize here that without rehearsing all the objections to the assumption that class in no way affects measured IQ, our assessment of the gap between reality and meritocracy is biased, i.e. is bound to be an underestimate. Yet we feel that at each stage from primary to secondary to post-secondary education and at each historical stage the expansion of secondary and higher education, merit is mediated by class discrimination.

In short, the journey towards an educationally fair society is a long one. Formidable barriers remain in all societies so that private tutoring flourishes in Russia as much as the common school without discrimination. But the public schools in Britain, without discrimination, have been shorted leaving a gap start to the children of the working class. The gap between the state and leaving age and university entrance still allows thousands of working class children without the help of maintenance grants.

Some will be complacent in the belief that the family morality is superior and the market argument: one can only point to the consequence, which is social order. Others will seize on the order of education as a positional good and refuse to attempt further progress along an impossible journey.

Two answers can be given to this. First, we do not know what will be the future relation between education and jobs in an age when the division of labour is being transformed. Secondly, the educational system, as it is still at least a century old, is still at least a century old, and eventually to abolish the education in this country.

The independent schools were shocked; but Hattersley had done a good turn. The press was unanimous in condemning the proposals. In a three-part television debate on the question of abolition, Hattersley came off worst. The case for independent schools was given a helpful boost. So was the schools' own awareness of the value of cooperating with the state.

The Independent Schools Information Service had been started

NEWS

Primary ban on rising fives

by Sarah Bayliss

Primary schools just outside the London Borough of Ealing can expect a wave of "rising fives" knocking on their doors at the beginning of term.

The children and their parents will be looking for refuge under a ban on rising five admissions, introduced by Ealing's Conservative controlled council at its last meeting on November 27.

The Ealing ban, which took effect from January 1, is expected to save £285,000 and is part of a wider cuts package. Nursery classes, mainly

for high priority children, will not be affected.

An Ealing council spokesman said there were 3,000 rising fives in the borough's primary schools last summer term.

For parents expecting their child to start their education in the new year, the ban has come as a surprise.

Neighbouring authorities such as Brent and Hounslow—both Labour controlled—will be hurriedly assessing the possible impact on their schools.

In Hounslow, three primary schools close to Ealing have tradi-

tionally taken a handful of children from across the boundary—and Ealing has paid for them.

Mr Mike Nicholls, chairman of Hounslow's Education Committee, is expecting more parents to opt for the Hounslow schools; but his committee must decide on the legality and desirability of rate-payers supporting Ealing school-children.

Hounslow will be particularly attractive to Ealing parents since it already takes 50 per cent of three-year-olds and all those four-year-olds who want to start school early.

Russian offensive on Thatcher cuts

by Kenneth Shaw

A Soviet journal has made a scathing attack on the Government's education cuts.

The journal, *Sovetskaya Pedagogika*, asserts that after a long period of discrimination against working class children in education, followed by some success, mainly through the efforts of the left wing of the Labour Party, in providing better chances for those children, Britain is now showing anti-democratic tendencies in its school policy.

Since taking office early in 1979, the report states, Mrs Thatcher's Administration has decided on further reductions in spending on the social needs of a wide range of the population, including that on education.

The report contrasts the £10,500m allocated to "social needs" by the Labour Government with the £6,000m by Mrs Thatcher, and later on in the article the writer says that Britain spends £8,500m on the military-industrial complex supporting NATO.

British Government figures, however, say the education allocation under Labour was £9,657m, cut to £9,220m by Mrs Thatcher. Under her Government defence spending as a whole (including NATO spending) has risen from £7,824m to £8,062m.

Social services' spending has risen under the Conservatives to £19,289m from £19,058m.

Intent on changing the law on education, the report goes on, the Conservative Government is supporting the privileges of the ruling class in education by seeking to preserve the private schools through greater financial aid. Grammar schools, too, are being strengthened—and those Moscow sees as designed for the children of the wealthy middle class.

The report quotes Mr Mark Carlisle as saying: "Replacing Labour Party law on the comprehensive school will eliminate the threat to freedom." To which the Soviet journal replies: "What freedom is threatened by the education of the broad masses of the nation it is not difficult to imagine."

Personal column

John Rae

Strong, astute
confident

I want to use two columns to review the position of the independent schools in the 1970s and 1980s. I hope readers will not regard this as introversion or irrelevance. Whether society likes it or not the independent schools will continue to exert an important influence. Yet they will appear havens of civilised learning and behaviour monasteries in an increasingly dark age; to others a source of division and in the end a society that badly needs to cast off its class-consciousness. Nothing could be further from the truth than that in the 1980s the independent schools can be safely ignored.

But first the 1970s. On January 1 1970 Harold Wilson's Labour Government was still in power. The Public Schools Conference (HMC) in 1969, about to produce its second report on the independent and direct grant day schools. Its first report on the boarding schools had been buried as quietly and quietly as a victim of the plague. When the second report was published it recommended the abolition of the direct grant. The Labour Party welcomed this but lost office too soon to take the necessary action.

In Opposition Labour reconsidered its position on the independent schools. Until then it had been inclined to accept the lead of the social democrats and favours some form of integration. The failure of the Public Schools Commission to come up with a credible scheme, made the party turn to abolition, at least as their long term goal. The new policy was hammered out by the National Executive's Schools Committee was Joan Lester. Its spokesman was Joan Lester. In September 1973, he told the schools bluntly that it was now his party's intention initially to abolish the direct grant and eventually to abolish the independent schools in this country.

The independent schools were shocked; but Hattersley had done a good turn. The press was unanimous in condemning the proposals. In a three-part television debate on the question of abolition, Hattersley came off worst. The case for independent schools was given a helpful boost. So was the schools' own awareness of the value of cooperating with the state.

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dared to break through the £1,000 a year barrier. In the early 1980s they will break through the £3,000 a year barrier. In January 1979, it was the day schools, which broke through the £1,000 barrier.

High fees and falling rolls in the secondary age group increased the competition for pupils. Though some schools went fighting in the foreign market, the majority did not and the proportion of foreign pupils in all independent schools—just under 5 per cent—remains low and hardly indicates a desperate search for business. But the boys' schools' decision to open their sixth forms to girls did cause friction within the independent sector. The headmasters were convinced that it was being done for economic reasons; the headmasters spoke rather unconvincedly about educational experiment.

Neither side was inclined to say publicly that there might be another reason. In a 1971 policy statement, the boys' public schools had observed rather tactlessly: "Sixth form provision for girls in particular is not infrequently inadequate and boys' schools might help by taking girls at that stage." The headmasters were happy to oblige.

The recently found harmony in the independent sector was not to last. The headmasters may not have acted for economic reasons but it is sure that economic arguments will prevent them ever turning the clock back. There were in 1979 9,000 girls in HMC schools. In the independent sector the number of girls schools have proved remarkably resilient though their own attempts to attract boys into their sixth forms have not been successful.

When the Conservatives won the 1979 election, the independent schools were stronger, more politically astute and less publicly criticized than at any time since the war. It was true that there were some disagreements about the new Government's assisted places scheme but the disquiet was a small minority and could probably be ignored. As the 1980s began, the independent schools looked forward to the future with confidence; with any luck there would be a Tory Government throughout the decade. And it is with the prospects for the 1980s that I shall deal in a fortnight's time.

The Independent Schools Information Service had been started

Meccano shut-down causes O level crisis

by Bert Lodge

An O level course in up to 500 schools is threatened by the shut-down of the Meccano factory in Liverpool.

The course, control technology, relies heavily on a £140 kit supplied by Meccano and which is sufficient for 15 pupils. A supplementary kit costing £100 is also available. But Airfix Industries, the parent company, closed the Meccano plant without notice on November 30, blaming financial problems and workers made redundant since occupied the factory though no production is being attempted.

Mr Geoffrey Shillito, director of the National Centre for School Technology at Trent Polytechnic, said this week that schools that already have the kit would not be greatly affected yet, although even school has to "top up" its store of Meccano parts each year. "The plates, gears, motors make it particularly valuable. Linear motion, switching, structures can

all be studied and pupils can construct models which have industrial application. The course, Control technology, Schools Council technology project and has been available since the early 1970s but its popularity has grown rapidly over the last two years. The kit specially put together for the control technology course and we at the centre, negotiated with the Schools Council, negotiated with Meccano to supply the contract." Mr Shillito said he had already started looking around for alternative manufacturers.

Oxford Conference in Education

Schools broadcasts to be reviewed

by Richard Garner

The pattern of BBC broadcasts for schools is to be reviewed, Mr Alastair Milne, managing director of BBC Television, told the Oxford Conference in Education last week.

Mr Milne, speaking at the conference held at St Catherine's College, Oxford, said: "We are surely going to have to look at our pattern of programmes for schools—probably not at primary level because all concerned seem happy with the existing mix of programmes. But at secondary level, although many schools have gone in for recording off-air replay when they can organise their own timings, there has been less satisfaction over the years."

The BBC, he said, would have to talk about rationalising the Open University output. BBC 2, while they were renegotiating their contract with the university.

In future, radio time may also have to be given up with students relying more on cassette or other learning materials. Mr Milne believed the Independent Broadcasting Authority should make equal time available to the Open University.

The creation of a fourth television channel would mean the 5 pm to 7 pm Open University slot earned second place in the general programmes before TV-2 started. Last year, Mr Milne said, the BBC spent £12.5m on education—£7m of which went on schools broadcasting and just under £5m on Continuing Education.

He added: "The broadcasting costs of the Open University (paid for, as I said, by the Department of Education and Science) were £8.5m."

Appeal to heads on cuts

Headteachers may be tempted to sacrifice the needs of educationally disadvantaged children first as they strive to cope with cuts in spending and falling rolls, Miss Margaret Madge, headmistress of Basingstoke Green School, told the conference. She said: "It will be all too easy when staffing cuts are forced upon schools for the already disadvantaged to be even further disadvantaged."

"It will be tempting—under circumstances of falling rolls, financial cuts, and the pressures of an often crude public debate on educational standards—for heads to reduce provision or courses specially suited to minority ethnic groups or girls and instead to maintain and protect more prestigious academic examination courses."

NUT steps up opposition to unqualified teaching for 16-19s

Strong opposition to allowing untrained teachers to instruct 16-19s in schools is reiterated by the National Union of Teachers today in a discussion document on the education and training of this age group.

But the document does recommend that, in addition to their usual curricula, schools should organize specific vocational courses normally only provided in further education or tertiary colleges. Further education teachers do not need teaching qualifications.

Recognizing the problems arising from the education of the age group in schools, and further education colleges, the union says it is "confident that agreement on all issues relating to the mobility of teaching staff can be reached after suitable consultations with the teachers' associations involved."

The report says that, in order to involve more 16-19s in education, i.e., Industrial Training Boards, the Manpower Services Commission and other agencies must "mount a systematic assault on all the impediments—institutional, attitudinal and financial—that conspire to prevent young people from obtaining access to education."

The union calls for day release for all 16-19s, and six weeks' paid leave a year so that 16-30s may attend vocational courses. Education and training for the 16-19 age group: a discussion document. NUT, Hamilton House, Mableton Place, London WC1.

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NEWS

A production line for the lost British engineer?

Main recommendations:

- Universities should give ultimate authority over their engineering courses to a new body, the Engineering Authority, responsible for scrutiny and accreditation of two new degrees, BEng and MEng. Universities failing the authority validation should lose the right to award degrees and forfeit special funds earmarked for engineering education. The authority should have powers of accreditation over employers and oversee generally the interests of the profession throughout industry.
- Three new ranks of engineer should be created.
- Experienced engineers should be recruited by university and polytechnic departments.
- Special funds should be earmarked for departments of engineering in universities and polytechnics. Polytechnics should be able to establish engineering courses independently of local government control.
- An additional £250-a-year bursary should be given to students on accredited engineering courses.
- Greater emphasis should be given to industry and technology in teacher training courses.
- Teachers should take short secondments in industry.

by Bert Lodge

Harsh criticism of schools for the quality of their maths and physics teaching, and a strong call for central control over the education of engineers, are among the main points made by the Finniston Report published this week.

The report also criticises universities for their admission policies and for the unsuitability of most of their first-degree engineering courses, and employers for failing their obligations towards young graduates.

All Britain's main overseas competitors do a better job of training engineers, the report concludes. As more than a million welcomes are accorded to the solitary entrants so far to improve engineering education, the "enhanced" courses scheme begun this year at a few universities and polytechnics and at which some specially selected students receive an extra £500 a year.

The cost of implementing the proposals is put at £40m. Indications from the committee that it expects the industry to foot the bill have already drawn protest and indignation in a letter to *The Times* on January 4 from the Institution of Civil Engineers.

Set up two years ago under the chairmanship of Sir Monty Finniston to find ways of recruiting and training the best talent for Britain's manufacturing industry, the 15-member committee has made inspection visits here and overseas, held open meetings up and down the country and considered over 700 submissions of evidence.

Schools

"The criticism repeated most frequently in the evidence to us concerned the standards attained by school leavers in mathematics and physics," the report says. From the Committee of the Engineering Professors' Conference there were complaints of "varying and often inadequate standards... which make the subsequent teaching of the basic principles of engineering much more difficult."

Acknowledging this to be the result of not enough qualified maths and science teachers, it goes on: "We received evidence to the effect that these shortages have

been felt more acutely in England and Wales because of wider distribution of able children among establishments since the move to comprehensive secondary education.

The report complains that the problem is exacerbated by the wide range of what is taught at A level. "There are over 50 different A level maths syllabi. It hopes that the Cockcroft Committee, currently inquiring into the teaching of maths, will recommend specific action towards an effort to improve maths in what is taught at A level, and for science, especially physics.

Criticism is also made of the level of communicative skills of engineering students and their narrowness of outlook. The study of, say, economics or a foreign language is recommended during their senior school years.

The report calls for extra funding for the Science and Technological Regional Organisations which bring together educationalists and industrialists at local level. It would like to see every company developing links with at least one local school.

More teacher fellowship schemes like those run by the Institutions of Mechanical Engineers and of Electrical Engineers are called for to expand teachers' experience of engineering industries.

University entrants

While acknowledging that United Kingdom engineering courses attract a good proportion of good A level holders, the committee is concerned that the long "tail" of candidates with relatively poor examination results "has depressed the academic centre of gravity of the engineering student population."

The report states that, in part, this is due to the fact that, since the late 1960s and early 1970s, fewer than able students came forward to fill them. This led to admitting more overseas applicants or filling up from the UCCA clearing house each September.

Noting that some of the professional institutions have attempted to raise standards by asking for higher academic performance, either at A or degree level, the report points out that this is no solution to the problem of improving recruitment to engineering.

There is a danger that potential engineering students would be deterred by higher institutional

The Finniston report



- Careers advisers should know more about engineering.
- Maths and physics teaching must be improved.
- Every secondary school should be involved in a schools-industry scheme and every firm linked with at least one local school.

entry requirements from pursuing an engineering formation. "It says a quarter of engineering students have worked in industry before starting their course. Many left school before A levels but have since gained alternative qualifications such as Ordinary National Diplomas and Certificates.

"It would be folly to discount the experience and practical education of these people as inferior to the academic examination performance of the student who continued study in school, which a policy of simply raising academic entry standards would imply."

Engineering education

It was a common complaint from employers, says the report, that the education of engineers is "fundamentally and theoretically."

Evidence from the Committee of the Engineering Professors' Conference (CEPC) agreed that "most current first-degree courses are not generally well matched to the requirements of industry."

The report aims to most university departments to give a rigorous treatment of engineering science which emphasizes fundamental concepts and the ability to apply them in their training and careers to real engineering problems in an original and flexible way.

This results in students having little experience and skill in engineering tasks as they occur in practice, the CEPC admitted. But the committee noted that complaints of this sort applied far less to sandwich courses from which about 30 per cent of new engineers currently graduate.

But here the report identifies a paradox. While employers say they are keen to recruit sandwich graduates, there are not so many of them about as there could be because of the difficulties of finding industrial placements for students.

Employers are also criticized for not realizing their obligations to the newly-qualified engineer. The committee says they look for in graduates are usually expressed as personal attributes such as "motivation" or "ability to work in a team."

The report says: "It should follow and in the best companies does—that employers have the ability for developing the abilities of newly recruited engineers and completing their professional formation."

tion. Too often this does not happen."

Acknowledging the recent introduction of "enhanced" courses as an important initiative to attract the very able into engineering and to give them a course which includes industrial experience, including management studies and business topics, the committee observes that some of the courses among the 10 providing institutions appear much more promising than others.

"However, as experiments, contributing towards a more practice-oriented education for engineers, we welcome the 'enhanced' courses, but we would wish to see a critical review of the lessons to be learnt from them after, say, three generations of students."

Overseas

Part of the remit of the Finniston committee was to look at the way other countries, particularly in Europe, prepared their engineers. After inspecting systems in Germany, France, Japan and the United States of America, they concluded: "While there are many strengths in the British system of engineering education, we are forced to the conclusion that the quality and balance of the initial formation of engineers in Britain's major overseas competitors (to the point where they emerge as fully fledged engineering professionals) is generally superior to that currently offered in the United Kingdom."

A new model

Proposals for a new model of engineering formation. Three principal routes:

1. Registered Engineer (REng) for the main body of engineers, based upon a new first degree programme leading to a Bachelor of Engineering (BEng) plus a programme of structured postgraduate training and experience, it will take upwards of five years.

The BEng programme will incorporate key elements of training in Engineering Applications in two themes: EA1, an introduction to the fabrication and use of materials and EA2, the application of engineering principles to the solu-

tion of practical problems based upon engineering systems and processes.

After the degree the REng candidate will move on to the EA3 and EA4 stages of his formation. This is not likely to last less than two years. EA3 will be a structured introduction to industry under supervision and involving a range of practical assignments; EA4 will amount to specific preparation for a responsible post and a period carrying responsibility in that post under decreasingly close supervision.

2. The route to Registered Engineer Diplomat (REng(Dip)). Only one in four engineers are likely to qualify for this elite title. The main route would be through the academic award of Master of Engineering (MEng) degree. This would consist of a first year on a common course with BEng entrants at the end of which selection would take place. The course would require a further three years and would encompass the engineering application phases EA1 and EA2 in the BEng.

The MEng graduate would have to demonstrate he had satisfied the training and experience requirements of EA3 and EA4 in order to attain REng(Dip). This would take about two years, making six years in all, comparable in length with continental Diploma courses.

To develop the REng and MEng courses, teaching contracts should be placed with selected university and polytechnic departments for course development.

3. Route to Registered Associate Engineer (REng(Assoc)). A qualification for those engineers who will work mainly in support roles. The academic part of this form will be based upon the new TEC qualifications of Higher Certificate and Higher Diploma and a modified form of the current BSc in engineering subjects. The main stream will usually have studied part time and will have accumulated considerable practical experience, usually equivalent to the elements EA1 and EA2. They will have to satisfy the authority that their total experience is adequate for them to be registered as qualified for this level of practice.

The report emphasizes "to maintain standards of qualification at these three levels we recommend a system of statutory registration of these formation qualifications based upon the accreditation and assessment of the formation passages, to be carried out by a new statutory Engineering Authority."

"We consider it important that the academic awards leading to these statutory qualifications must be clear by their titles that they are engineering awards and that they are clearly distinguished from other arts or science degrees. We therefore urge university and polytechnic governing bodies that the degree titles that they give for engineering courses accredited to a BEng or MEng are amended accordingly—and that those titles."

The committee considered arguments for having special funding arrangements for engineering education but rejected them in view of the difficulty in separating the discipline from others in higher education.

"Nevertheless we see a need for reform... to ensure the implementation of our proposals... and we recommend the specific immediate and long-term funding earmarking of extra funds, via tranches from the University Grants Committee, and equally effective measures for the maintained sector to accredited engineering departments."

Further: "We recommend that courses which fail to get or lose their accreditation should no longer be eligible for earmarked funds."

If polytechnics are also to get earmarked funds, as the report recommends, the question of their particular form of government is raised.

The report emphasizes: "For polytechnics to be able to respond to the needs of the engineering dimension and to mount the new formation packages they must be in a position to take action without having to await approval from a hierarchy of external committees."

The committee estimates the cost of its proposals at £15m to £40m a year, against a current cost of engineering education of about £20m a year. "In our view the extra expenditure is modest when set against the likely national returns. Notwithstanding the current restrictions on public expenditure, this price must not and cannot be budged."

Report of the Committee of Inquiry into the Engineering Profession. Cmd 7794 HMSO £5.00.

At the same time to encourage continued on next page

NEWS

Association of Science Education annual meeting

Big surplus of science staff expected

by Bob Doe

The present shortage of science teachers could be reversed so dramatically in the next 10 years that the retirement age may have to be dropped to 55 or less to get rid of the surplus. This is the startling implication of figures presented at the annual meeting of the Association for Science Education by Dr Jeff Kirkham, science adviser for Leicestershire.

Figures obtained from the Department of Education and Science by Dr Kirkham show schools short of 1,150 biology, 1,050 chemistry teachers and 2,400 physics teachers. The total number of qualified science teachers in secondary schools in England and Wales is 36,000.

But there is pressure for more science to be taught to more pupils as part of a common core. One suggestion is that on average pupils should spend about one sixth of their time doing science up to the age of 16.

With an average staffing ratio of 18:1, this means that in 1981, with

3,700,000 children in secondary schools, 34,260 science teachers will be needed, and 8,200 more for sixth form work. By 1981, therefore, 42,000 science teachers would be needed, although as Dr Kirkham says it is unlikely that 6,000 extra can be found in time.

By 1992, however, the numbers of pupils will fall to 2,850,000 and only about 28,500 science teachers will be needed. That will be 7,500 fewer than the present numbers.

According to Dr Kirkham, the age structure of the profession is such that natural wastage is unlikely to resolve this, particularly as a higher proportion of science teachers than other teachers are aged less than 34. If the situation stabilizes, by 1992 the equivalent of every science teacher at present aged 40 or more will have to be retired to keep to the numbers required.

At present science teacher numbers are increasing in number at the rate of 800 a year, in spite of the loss of 1,000 a year to other jobs, retirement or maternity. The largest growth is in biology teachers, and retirement or maternity. The largest one danger is that as the pressures to shed staff increase, physics teachers—who are best able to find jobs elsewhere—will be the first to go, exacerbating still further the acute shortages in that subject.

Because of the comparatively young age at which many science teachers are promoted to heads of department or scale posts, there will be considerable frustration for those just behind them, Dr Kirkham told the conference.

Teachers should be paid more to overcome the serious shortage of science teachers, Sir Norman Lindop, Director of Hatfield Polytechnic, told the ASE. "Is it too much to ask to offer some financial inducement for science teaching?" he said.

Teachers in general should get more. Salaries in the profession were no longer competitive. But in return they would have to accept the need for professional standards and conduct. These included a reduction in the variety of forms of teacher training and the setting up of a national teachers council.

Sir Norman predicted a contraction in the number of higher education. The proportion going on to higher education just because they

had the necessary qualifications would go down.

Higher education might come in many more than at present, but not along the lines of the existing pattern. Conventional college and university education would shrink, but he suggested there might be an increase in the numbers of adults coming into higher education.

Sir Norman said that "genuine scholarship" involving about 15 per cent of students, would survive. For the other 85 per cent something better would be needed than "the traditional attrition on the scores of educational achievement."

50 physics teachers will be visiting offshore oil rigs, refineries and chemical factories to help British Petroleum develop teaching materials for schools on the industrial uses of electricity.

Mr David Saxe, BPS personnel director, told the ASE: "We believe the most important resources a nation possesses are the skills and knowledge of its people. Interaction between the providers of education and its users can only help to develop these resources in the most socially useful way."

Later the students passed overwhelmingly a resolution urging that all lecturers should attend compulsory training courses in teaching skills when they arrive on the campus.

Finniston

from previous page

teaching staffs to retain valuable industrial contact, the report recommends a system of recognition, accorded by the engineering institution and endorsed by the engineering authority, for engineering teachers who are registered engineers and who meet criteria laid down regarding their industrial experience and their continuing involvement with industry, plus their academic standing.

Accreditation of BEng and MEng courses should then take into account the number of "recognized" teachers on the course. Such recognition should be subject to renewal, say, every five years and should command additional remuneration in the form of a special responsibility allowance.

To develop an easy interchange between educational institutions and industry, senior engineers must be encouraged to return to education. "Appointments should be made at professorial or lecturer level on pay scales negotiated to reflect the industrial earnings of engineers who will divide their time between industry and education in this way."

Funding

The committee considered arguments for having special funding arrangements for engineering education but rejected them in view of the difficulty in separating the discipline from others in higher education.

"Nevertheless we see a need for reform... to ensure the implementation of our proposals... and we recommend the specific immediate and long-term funding earmarking of extra funds, via tranches from the University Grants Committee, and equally effective measures for the maintained sector to accredited engineering departments."

Further: "We recommend that courses which fail to get or lose their accreditation should no longer be eligible for earmarked funds."

If polytechnics are also to get earmarked funds, as the report recommends, the question of their particular form of government is raised.

The report emphasizes: "For polytechnics to be able to respond to the needs of the engineering dimension and to mount the new formation packages they must be in a position to take action without having to await approval from a hierarchy of external committees."

The committee estimates the cost of its proposals at £15m to £40m a year, against a current cost of engineering education of about £20m a year. "In our view the extra expenditure is modest when set against the likely national returns. Notwithstanding the current restrictions on public expenditure, this price must not and cannot be budged."

Report of the Committee of Inquiry into the Engineering Profession. Cmd 7794 HMSO £5.00.

At the same time to encourage continued on next page

Boyson warning on university student militants

by Richard Garner

Dr Rhodes Boyson, Under Secretary for Education, has warned that militant behaviour by students may threaten the future of Britain's universities.

Speaking at the National Union of Students' universities' conference in Coventry at the weekend, he said: "The future of universities and the level of student support will in the long, and even the short run, depend upon the respect with which they are held by the general public."

"Lively unpleasant demonstration, every sit-in disturbing student studies and administrative action, every objectionable incident, every wild exaggeration of student leader will inevitably damage not only the image and interests of hundreds of thousands of students who work conscientiously day by day but also the standing of universities themselves."

Later the students passed overwhelmingly a resolution urging that all lecturers should attend compulsory training courses in teaching skills when they arrive on the campus.



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If you miss it write to Copydex for details.

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500 من الأصل

NEWS

The packaged curriculum

Specific proposals for a core curriculum are set out in the Government's latest consultative document. Simultaneously, HMI have backed plans for a framework. Bob Doe examines both reports

English and maths take priority

All pupils should spend at least 10 per cent of their time learning mathematics and English, Mr Mark Carlisle, the Education Secretary, says in *A Framework for the School Curriculum* published this week. Science education should start in primary schools, and it should take up 10 to 20 per cent of secondary school time.

A further 10 per cent should be devoted to studying a foreign language for at least two or three years, though no pupil should devote more than 20 per cent of his time to languages at any stage of compulsory schooling.

The common core should also include religious education, physical education and careers guidance for all, begun not later than the third year of the secondary school.

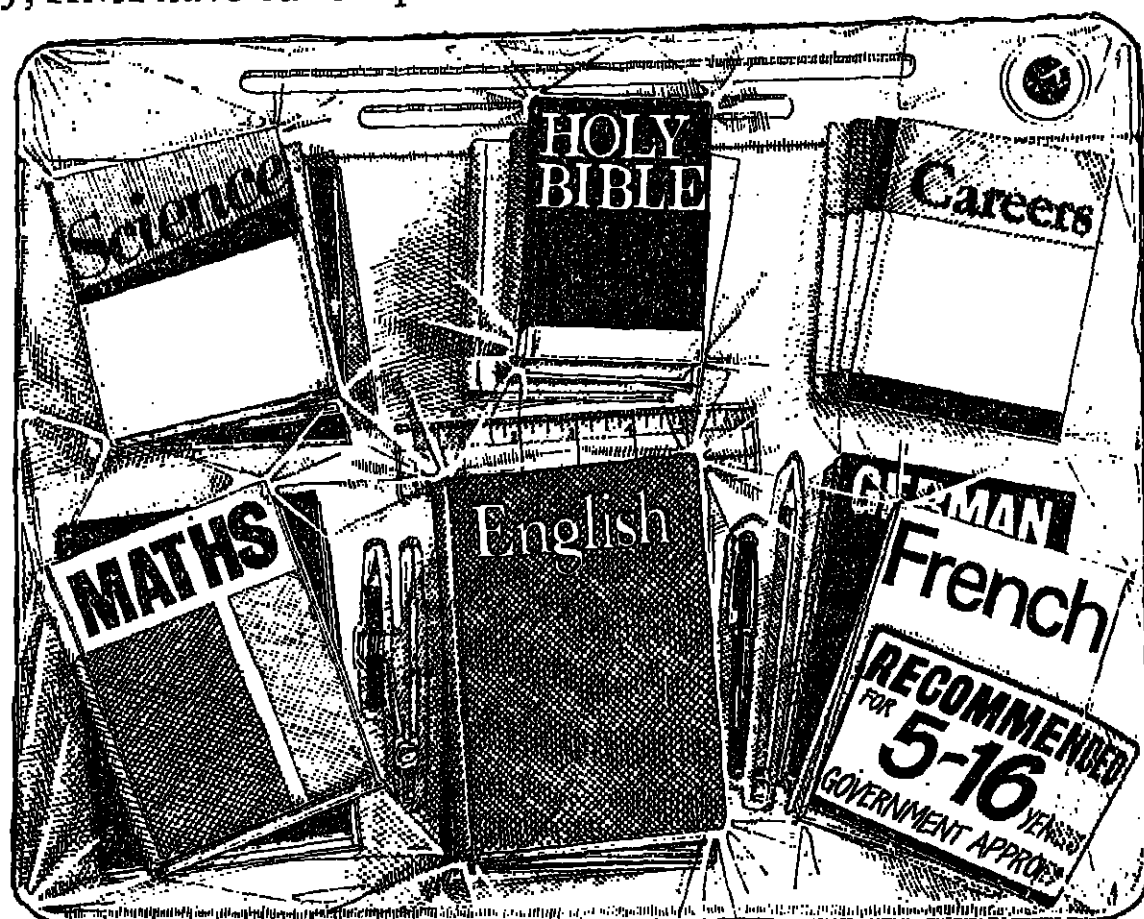
The Education Secretary repeats the assertion that it is not the Government's intention to lay down in detail what and how schools should teach; but it had "an inescapable duty to satisfy itself that the work of schools matches national needs".

The consultative document says the curriculum should not be static or uniform throughout the country. But the diversity of practice revealed by the HMI primary and secondary surveys "makes it timely to prepare guidance on the place of certain key elements of the curriculum should have in the experience of every pupil during the compulsory period of education".

It claims a "good deal of support" for the idea of a core of essentials followed by all pupils according to their ability. "This would ensure that every pupil at least got sufficient grounding in the knowledge and skills which by common consent should form part of the equipment of the educated adult."

That said, however, the proposals confine themselves to questions when it comes to the details of such a plan. "Should the core be defined as narrowly as possible or should it cover a large part of the individual's curriculum? Should it be expressed in terms of traditional school subjects or in terms of educational objectives?"

English and maths should form part of every pupil's course throughout the whole period of compulsory education. These subjects were essential both in their own right and because of their importance for many other parts of the curriculum.



world in which they live, and the interdependence of individuals, groups and nations.

● To help pupils appreciate human achievements and aspirations.

These are put forward as an indication of "the values against which any substantial element of school curriculum may be tested rather than as a checklist of items that should be found within it."

A Framework for the School Curriculum, free from DES, Elizabeth House, York Road, London SE1 7PA.

Yes, spell it out say inspectors

There is an urgent need to get out more precisely what children should learn, according to Her Majesty's Inspectorate. In *A View of the Curriculum*, the response to the Government's plan for a framework for the curriculum, the inspectors say that there is a need to set out on what compulsory secondary schooling should include.

Primary schools, says the Inspectorate, have got the balance almost right. "It is only the revision of observational and eyes mental science that is saving the teaching of French that sometimes attempted when conditions are not suitable."

The first of 14 points or "propositions" relating to the 11-16 curriculum make clear the HMI view that there is a case for a common core of framework.

"There is a need to set a general and much more explicit consensus nationally on what constitutes the years of secondary education of the age of 11. There has not been some common understanding of what secondary education is intended to do for the pupil and enable them to do for themselves."

Within the education system, while there should be common opportunities, and quality in schools and for all pupils regarded.

The inspectors say their purpose is to frame a framework for the curriculum and therefore to leave out details. They assume there will be a lengthy period of consultation locally and nationally. "Where it is decided nationally, it must be decided locally."

A curriculum with a large common element did not mean there would be no room for choice. Options would provide the necessary opportunities for new or additional subjects or give time to extend compulsory subjects.

"Within such a framework some vocational interest can be introduced either in the form of optional subjects—commerce for example—or as an extension of compulsory subjects into studies involving more specific applications. For example, technology might appear here either as a course in its own right or as an extension of science or craft."

Men talk and interrupt more at meetings than women. They tend to decide what to talk about and what is trivial or irrelevant. And they call a woman "talkative" when she speaks for half as long as a "talkative" man.

These findings, based on a detailed analysis of meetings in 1975, were presented to last week's conference on sex differentiation by Ms Dale Spender, lecturer in women's studies at London University Institute of Education.

Men talked more, she said, because they had greater power in our society. The evolution of language had favoured them and now there was a positive semantic bias in their favour. In discussions women were at a disadvantage because they spoke a language they had not created, and their views were often discounted by the more powerful men. In addition, conditioning and stereotyping tended to make women deferential.

Girls' education, said Ms Spender, was harmed because talking was essential to learning. In addition female experience was discounted throughout education, and girls were asked to accept a male view of the world.

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NEWS

From previous page

has increasing practical value as our links with Europe and the rest of the world are strengthened.

More language teachers were needed and more in-service training so that teachers could grapple with the needs of a wider range of pupils. Considerable rethinking of courses was needed for those unlikely to continue their languages for the full five years.

Arts and crafts

"No pupils' programme should be wholly deficient in the arts and applied crafts." There were various ways of providing aesthetic and creative experience through music, drama, art or crafts, and for designing and making through craft design and technology, or through home economics or needlework. While they were all different, they had some valuable features in common, and all pupils should be able to select from among these.

Social education

"Rather more difficult decisions arise in relation to social and political education. Schools quite commonly offer a choice from history, geography, economics or some form of social or environmental studies and there clearly are some overlapping interests and skills which pupils could be expected to derive from them."

It is questionable whether, in view of the way these subjects have developed over recent years, young people will derive enough of what they need to know from a choice of only one of them."

History

"There is in particular a strong case for maintaining some study of history in the final secondary years. The achievement of sex equality in the United Kingdom, said Dr Ellen Byrne, education consultant to the Commission of the European Communities.

Autonomy in education was in danger of becoming a "hidden anarchy", she said. And she warned: "Unlimited delegation leads to planned inequality."

She condemned Britain's failure to define equality in education, and said the Sex Discrimination Act was ambiguous in this respect. Other European countries, such as Denmark and Holland, had clear plans for their education systems and these included equal provision for both sexes.

Dr Byrne said a common core did not mean uniformity of content or methodology. It did imply that "homework and parent-teacher liaison and manual skills, mathematics and some science, at least one creative art... must be an essential part of the compulsory education of all girls and all boys..."

She said cross-timetableing on grounds of sex should end, and compulsory programmes in mathematics and technical education in primary and secondary schools—"but most of all in further education"—should be developed.

Men are more talkative

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Sex Differentiation and Schooling Conference, Cambridge

Impractical girls just lack confidence

by Biddy Passmore

A lack of confidence on the part of many girls explains the superior achievement of boys in maths and science, Dr Elizabeth Fennema of the University of Wisconsin told a Cambridge conference on sex differentiation and schooling last week.

Dr Fennema, who has spent many years researching into sex differences and the learning of mathematics, said that she no longer thought there was a direct relationship between visual-spatial skills (the ability to solve problems involving an understanding of shapes and structures) and mathematical ability. The poorer performance of girls in visual-spatial tests did not account for their underachievement in maths, as was commonly held, she said.

Her theory means that there is no biological difference between boys and girls which would make girls better at maths. It undermines years of assumptions about the different achievement of boys and girls in maths and science subjects.

She concluded that teachers must persuade both boys and girls that girls should study mathematics. Lack of confidence means that far fewer girls opt to take mathematics in senior classes. Since they are taught less, they learn less.

National plan needed to sort out Britain's ambiguities

The persistent refusal of Government to develop a national plan of education was the biggest single obstacle to the achievement of sex equality in the United Kingdom, said Dr Ellen Byrne, education consultant to the Commission of the European Communities.

Autonomy in education was in danger of becoming a "hidden anarchy", she said. And she warned: "Unlimited delegation leads to planned inequality."

She condemned Britain's failure to define equality in education, and said the Sex Discrimination Act was ambiguous in this respect. Other European countries, such as Denmark and Holland, had clear plans for their education systems and these included equal provision for both sexes.

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Even when they do take mathematics, girls tend to get a far smaller share of the teacher's time. Throughout school, boys—especially noisy, high-ability boys—get a disproportionate share of the teacher's attention, thus reinforcing the already harmful effect of sexual stereotypes on girls' achievements.

Her findings, based on research in Madison, Wisconsin, were supported by British speakers from the floor.

Dr Fennema was one of four North American academics, flown over to address the conference, who have been looking at why girls tend to perform better than boys always in the primary years—but then fall behind.

Dr Carol Jacklin, author with Eleanor Maccoby of the influential study *The Psychology of Sex Differences*, studied the careers of 200 children from birth to the start of school. She concluded that when they arrived at school boys tended to be more demanding, while girls were quieter and more compliant. Boys tended to normally played in larger groups than girls. But, she emphasized, there were greater differences within each sex than between them.

Ms Carol Dweck of the University of Illinois explained the lower achievement of girls in terms of the concept of "learned helplessness", which made girls underestimate their ability, and gave them less confidence to tackle new tasks and concepts.

Learned helplessness was caused by the different patterns of praise and criticism given to the two sexes from teachers. Girls and boys received the same amount of criticism, but girls were nearly always criticized on intellectual grounds, while boys were criticized half the time on non-intellectual aspects such as effort or presentation.

This difference in treatment led girls to attribute their failure to lack of ability whereas boys blamed failure on lack of effort or on the nature of their task. This encouraged boys to think that they can do better with more effort.

Some delegates thought that Dr Kelly's suggestions would reinforce stereotypes, and not overcome them. Others thought it sensible to recognize existing differences—whatever their origin—and to try to compensate for them in a practical way.

In his closing speech Mr Marland returned to the curriculum. He argued that it was dangerous to treat sex differentiation as a separate problem and that it should be treated as part of the general problem of underachievement, itself caused by a failure to plan the curriculum.

Mr Marland said that good curriculum planning must take each school should draw up a list of skills and attitudes which pupils should learn. These skills should be distributed across the curriculum. They must include linguistic skills and "graphical" and must be openly stated.

Only if this was done could a school's achievements be measured against its aims, he said. Moreover, the dropping of a particular subject, such as craft design and technology, would no longer be as disastrous as it was under the present haphazard system.

At present, teachers tended to develop a curriculum to suit the class in front of them. It was essential to put the curriculum first.

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NEWS

North of England Education Conference

Quality suffers as falling rolls bite in secondaries

by Sarah Bayliss

Falling pupil numbers are already affecting the quality of education offered in secondary schools. In 20 schools surveyed in a research project by Professor Eric Brink at Sussex University, falling rolls have caused curricula to contract and with forms to shrink below a practical size.

Addressing the North of England Education conference in Durham last week, Professor Brink said he had visited schools where only one foreign language was offered, where sciences could no longer be taught as separate subjects and where music had disappeared from the timetable.

The hardest hit schools had an increasing unbalanced intake with fewer and fewer parents opting for them. Some had already become de facto secondary modern schools for 11 to 16-year-olds, he said.

If a child was the only one in a class with an IQ above 120 that child was deprived in his schooling, Professor Brink said. He pointed to Mr Michael Rutter's findings, from 12 inner London schools, that delinquency increased with an imbalanced intake.

Professor Brink, chief education officer for LEA from 1971 to 1976 outlined the different responses which authorities could make to falling rolls. There were two roads—one hard, one easy.

The easy road allowed free parental choice to operate with as many schools as possible kept open to avoid the "minimum trouble" option for education administrators because

it minimized confrontation with parents and teachers. However this quieter life for officers cost money: resources still had to be put into the most unpopular schools to maintain a reasonable curriculum.

The easy route would lead to increased competition between schools. There was knowing laughter from his audience when Professor Brink said: "Some of you will know about winning and dining primary hounds."

The alternative hard way was to have a policy on falling rolls and stick to it. It meant deciding how small schools could become before they were closed: how many schools the authority would need by 1990; and the nature of sixth-form provision. It was better to plan the combination of schools than to close individual schools, he said.

Professor Brink produced one strong argument in favour of the hard road. The cost of school buildings averaged £70 per pupil—and £70,000 a year could be saved if two schools for 3,000 pupils, both only half-full, were merged.

Answering a question on single-subject teachers, Professor Brink said he found most teachers in his sample of schools with falling rolls taught more than one subject, but even more teachers should be prepared to do so. One reason teachers held out against this was that they fear that they might become more vulnerable to redeployment.

Findings of the research project which Professor Brink directs at Sussex are due to be published in April.

Higher proportion of leavers put jobs before college

The proportion of British school leavers entering higher education has declined since the mid-1960s, according to Mr Mark Carlisle, the Education Secretary. Figures from his department show the proportion has dropped from 14.2 per cent in 1972-73 and is expected to be down to 11.8 per cent by next September.

After a speech at the North of England Education conference last week, Mr Carlisle said that the universities admitted 20,000 fewer home students last year than the number allowed for in their government grant.

This week the DES issued a cor-

rection stating that the figure was 2,000, rather than 20,000.

Mr Carlisle had told the conference this trend offset the acceleration that the Government's new growth policy would reduce opportunities for school leavers.

He believed that 18-year-olds who wanted to go into higher education in the future would have as good an opportunity as at present.

The most likely explanation for the proportional decline in 18-year-olds choosing to go to university was that many went straight into good jobs with their qualifications. This was not a bad thing, he said.



Mark Carlisle addressing the conference.

Tutors form new group for disabled

by Diane Spencer

Special education lecturers have joined forces to fight for more resources and better training to teach handicapped children.

Last week they formed the Association of Special Education Tutors at an inaugural conference in Warwick University.

In the light of the Warnock Report on special education, published in 1978, the association will act as a pressure group in the scramble for scarce resources in teacher training. It also hopes to increase professional skills, act as a forum for discussion and promote research.

Special education has failed to meet the needs of the West Indian community, according to Mr Paul Widdlake, head of the Centre for Studies in Educational Handicap, Didsbury School of Education, Manchester Polytechnic.

He said that West Indian secondary schools for the mildly educationally retarded, the ES(M) category, at second rate institutions which held back their children. Instead they set up "Saturday schools" run by their own community to teach the basic skills.

"I find their disillusion with the special education system rather appalling," he said. The notion that special education should not be part of initial teacher training was challenged by Dr Ken Jones of Bristol Polytechnic. "It is a myth that you have to work in normal schools for a long time before you can work with handicapped children," he said.

Only 22 per cent of teachers in special schools have an additional qualification. Little progress had been made in the last 30 years towards the goal of everyone teaching the handicapped being properly qualified.

"I think we are missing the best students with our present procedures. We tend to discourage enthusiastic young people who have a tremendous amount to offer."

Instead many teachers went into special education because they liked the idea of small classes and it was a quick way of getting more money, he said.

Training Centres (ATC) are the fastest-growing area of provision for the severely mentally retarded. Dr Edward Whelan, from the Hester Adrian Research Unit at Manchester University, told the conference.

Unfortunately, staff had to be persuaded that their training was capable of doing more complicated tasks than they were given.

Monday's children: the TES competition for primaries

"What I do on Monday—and what I'd like to do." This is the topic for entries to the TES competition for primary schools. We have already received more than 100 contributions and would like many more. Here, for example, is how two entries began:

"Monday's lesson begins with one of my favourite dislikes—primary mathematics."

"The size of my class is fairly big. It has about 35 children. I think to start with there should be fewer children—20 would be a good idea."

The competition is open to children aged five to 11 in primary and middle schools. We want

to know about some of the things they do at school—what they enjoy and what they dislike; what makes sense and what does not; what seems useful and what is missing that could be important.

The prizewinners will, of course, describe what children do; but they should also offer judgments and suggestions. Pictures are welcome, and we will pay £10 for any we publish (they must reproduce well in black-and-white). But they will not be taken into account in deciding the winners.

The first prize will be £30, plus £150 for the winner's school fund. There will be 10 runner-up prizes of £15. Entries should not be

longer than 1,000 words (they can, of course, be much shorter). The should be legibly written or typed on one side of the paper, and each entry must carry the name, age, home address and school name and address of the entrant. The closing date is February 22.

The competition will be judged by the editor, and his decision will be final. The TES reserves the right to publish any entry. Correspondence will not be entered into. Entries will not be returned. Inquiries should be addressed to the Editor (Primary Competition), The Times Educational Supplement, New Printing House Square, Gray's Inn Road, London WC1X 8EZ.

Catholic pupils to pay double bus fare

by Bert Lodge

Catholic children in Mid-Glamorgan will next year be charged twice as much on school buses as pupils attending maintained schools, a teachers' conference was told last week.

Another consequence of the government's decision to allow local authorities to charge for school transport is that numbers will be halved in at least three RC-second-

ary schools in the north. Mr Harry Mellon, head of Cardinal Newman Comprehensive, Coventry, told the annual conference of the Catholic Teachers' Federation. He said he knew of parents in Oxfordshire—another authority which has withdrawn free transport to denominational schools—who would have to find £320 a term to transport their children to school.

From Choppell in County Durham, the cost of transport to the

nearest RC school was £10 a week and some families had three children attending.

A spokesman for Mid-Glamorgan said that the higher fees would also apply to pupils at bilingual schools and for the same reason.

The conference resolved to call on Catholic teachers all over England and Wales to lobby their MPs this month to get the transport clause in the new Education Bill either removed or changed.

Sex equality party refuses to disband

The core of the working party which produced the Manpower Services Commission report on the special needs of unemployed girls and women is refusing to disband. It will remain in existence as an unofficial pressure group to keep an eye on the way the commission runs its programmes.

The 21-strong working party was set up more than a year ago by the MSC's special programmes board in conjunction with the Equal Opportunities Commission, and included representatives from the Department of Education and Science, Inspectorate, the education and careers services, and industry. Its report, published in November after a series of delays, has attracted widespread attention.

But a proposal from Ms Valerie Coleman, the working party's chairman, that a nucleus of its members should be kept on by the MSC to monitor the special programmes and advise the staff running them was turned down. Mr Geoffrey Holland, head of special programmes, told Ms Coleman that his officials did not need support of this kind.

Sir Richard O'Brien, the commission's chairman, backed Mr Holland. But, encouraged by the EOC, Ms Coleman and six others have told the MSC that they intend to go on with their job as an independent group.

They say they will, among other tasks:

- Collect information about the involvement of girls and women in the MSC programmes and publicise issues that arise
- Advise and prompt action by the special programmes division
- Advise on the Sex Discrimination Act and press for clarification where necessary
- Maintain support for research into curriculum development and training for girls and women to help them enter non-traditional jobs

Told that the EOC has decided to provide secretarial services for the group, the MSC has now decided to cooperate with it, and has agreed to appoint one of its junior officials as its representative.

After books, industry helps out with free computers

For Mr Neil Macfarlane, who last month commended a company for helping schools to buy text books, here is another example of industry charity.

So many pupils at Bristol's Portway School want to do computer courses this year that the school's facilities—card punches and a terminal linked to Bristol Polytechnic's computer—cannot handle them.

A Weston-super-Mare firm, DRG Business Machines, has agreed to make them a permanent loan of its complete installation.

It is a Cudo System 20, which is capable of handling all the account-

ing and stock control for a medium-sized business.

The school's own administrative programmes will now go on to the computer, with pupils helping to write the programmes.

The company's group manager says: "It is up to the computer industry to support the talent and enthusiasm of schools like Portway, which are supplying the next generation of programmers and operators. The school has three very competent programming instructors and their record shows that they will be able to make good use of the equipment."

Salaries for word-processor operators in London are from £4,500 a year.

Word processing courses offered

Courses in word processing are being offered to teachers and industrial trainers. They are to be run at Britain's first word processing training centre, a private establishment which is getting a grant from the Manpower Service Commission.

WTR Services, the consultancy firm, which has set up the centre, says only one operator is being trained at present for every five word processing machines being installed; a serious shortage is rapidly building up.

Salaries for word-processor operators in London are from £4,500 a year.

School to work

Computer groups bid for careers market

Rival computer systems are shaping up for battle in the new field of electronic careers advice. The government backed CASCAID guidance service, which has taken 10 years to develop, is already in danger of being outbid by systems which appear to offer a lot more.

CASCAID is a central installation developed with Department of Employment money by Leicester careers departments, which has so far persuaded 58 other local authorities to buy the service. Subscribers feed in details of their pupils—either by post or direct from their own terminals over post office lines—and get back a print-out of suitable courses and careers.

But CASCAID faces competition on two fronts—at one extreme, a push-button installation which conducts face to face interviews with individual clients, and at the other, a do-it-yourself guidance programme which any authority can run on its own computers if they are of the right type.

The interview computer is a commercial installation at the In-sight Centre in Glasgow, where school leavers are flashed test questions on screens and push buttons to reply. It is an electronic device

for administering personality and aptitude tests and matching the scores against standard profiles for a range of jobs. At £40 a head the clients also get a session with an industrial psychologist.

The Glasgow service is more likely to attract industrial personnel selectors, who tend to be more interested by standard psychological tests than the education based careers service. The other system—which also happens to originate in Scotland—offers a more relevant alternative to CASCAID.

JIG, the Job Ideas and Information Generator, was devised by Edinburgh University's Dr S. J. Cross and consists of a set of inter-linked programmes based on a file of information about jobs and courses which a computer can match to a pupil's interests, qualifications, needs and preferences.

JIG is meant to be used in school, and is controlled by the teacher and the pupils themselves. A class or leaver group fill in a questionnaire, with either the pupils themselves or the teachers scoring the answers. The scores are then run through the local authority's computer, which prints out a range of possible jobs for each pupil to discuss with careers teachers and officers. It describes

each job and its requirements and tells the pupil where to look for more details.

JIG is being tried out on a large scale in Letham and in the London borough of Havering, where it is linked with the borough's own computer assisted career learning scheme. The combined system is known as JIG-CAL.

The system has been on trial in Havering since 1978, and is now in use by third-year pupils in 25 of the borough's secondary and special schools. Unlike CASCAID, which at present only deals with pupils who have at least some O levels or their equivalent, it caters for all levels of ability.

Leicestershire say they have concentrated on higher ability pupils because they are the group who benefit most from a computer's ability to sift a mass of detailed information. CASCAID is likely to expand its market rather than down

—it is already being used by a few polytechnics for discontinuing students, and there are plans to develop a full service for graduate advice bureaux. The CASCAID team say that if they are to provide advice for the non-automatic school majority they will have to set up a separate system.

Havering's principal careers

officer, Mr G. Malt, says they consider that the "all levels" approach is essential.

That alone is likely to be a powerful attraction for other careers services, concerned as are most of them with the increasing difficulty of placing under-qualified youngsters in worthwhile jobs. Also likely to count with them is the fact that the JIG system is based on a questionnaire that they know and trust, the APU Occupational Interests Guide, which was devised specifically for careers guidance.

The test, which in its original form has separate versions for boys and girls, has been turned into a unisex questionnaire for JIG, but it retains its main strength—an emphasis on uncovering exactly what the pupil likes and dislikes so that no time is wasted in suggesting careers that are unlikely to be considered.

But what may give JIG-CAL as a complete system a decisive edge over other job guidance aids is its potential for development as an educational tool. Mr Malt says that he sees its possible extension into advising on sixth form courses, and eventually as a guide to course options and subject choices from the third year on.

Mark Jackson

SPECIAL ANNOUNCEMENTS

HEAD OF NORTHERN IRELAND OFFICE

The Central Bureau for Educational Visits and Exchanges is both a governmental agency and an educational foundation; on the one hand, administering a broad range of official schemes (such as teacher exchanges, language assistants and EEC study visits for vocational guidance and youth unemployment experts, local education administrators and young workers) and, on the other hand, developing opportunities for international studies, visits, exchanges and co-operation covering most parts of the world including music, the theatre and other arts in education, sports and recreation, expeditions and exploration, school/college/polytechnic/university links, adult education and special work for the disadvantaged and the disadvantaged. It is a world pioneer in many of these fields and is quoted as a model for other countries by the EEC, the Council of Europe and UNESCO.

The Central Bureau is also a major publishing house and gives advice on virtually every form of educational travel. It was founded in 1948 by the Ministry of Education and the UNESCO National Commission and is funded by the UK Education Departments. It works closely with the Northern Ireland Department of Education on a number of schemes and with many educational institutions and youth organizations in Northern Ireland, helping them to develop their own links and exchanges with other parts of the world.

"The world's leading organization in the field of educational exchange."
(The Rt Hon Mrs Margaret Thatcher, MP, when Secretary of State for Education and Science)

The Central Bureau is now to open an office in Belfast in order to make all its services more accessible to people in Northern Ireland, along the lines successfully employed in the Bureau's Scottish office in Edinburgh.

It will be clear from the above that a person with wide interests in education, youth, travel and international affairs is needed to head the Belfast office which initially have only had a total of two or three staff. The Central Bureau has an international reputation for efficient, economic management and effective, friendly service and cooperation, and the person appointed will be involved in a constant two-way flow of information, advice, scheme and project management, study visits and exchanges which will require enthusiasm, skill and some relevant experience. Personal qualities are more important than formal qualifications.

It is hoped to open the office in April, 1980, but a somewhat later date might be possible. Conditions of service are akin to those in the Civil Service and the salary will depend upon experience but will not be less than £7,500. A secondment for two or three years would be considered.

For further details and an application form write to: Mr P. S. Duncan, Head of Establishment, Central Bureau, 43 Dorset Street, London W1H 3FN. (All enquiries and applications will be treated in confidence.)

CENTRAL BUREAU FOR EDUCATIONAL VISITS AND EXCHANGES

OVERSEAS NEWS

OECD

Thinktank slowed but not stopped by budget cuts

by Anne Corbett

PARIS The prestigious international education thinktank, the Centre for Educational Research and Innovation, of the Organization for Economic Cooperation and Development, has had its budget drastically reduced. But the cuts are not as bad as were feared.

Last month the OECD council approved budget cuts in many sectors including education. The CERI budget is 200,000 francs down on last year's total of 10m francs, and the Organization's committee for education, concerned with policy analysis, has had its budget cut by 300,000 francs. For CERI the cut is particularly serious as it coincides with the ending of some of the special grants from outside agencies which have amounted to 1.7m francs.

The optimistic view in Paris is that this represents a slowdown but not a serious interruption in CERI activities. But the decision not to make any immediate cuts in staff will severely affect the operational side: there will be fewer consultancy contracts and meetings, which many see as the most enriching and original side of OECD's

educational work. It may also mean that some projects go into cold storage without any certainty that they will ever be untrozen. The early childhood project, with which the late Professor Jack Tizard was closely connected, and the urban education project which draws heavily on British expertise, are said to be likely candidates.

But two months ago it looked as if the cuts would be much more drastic. The Americans wanted a so-called supplementary cut of 30 per cent. This was later reduced to a demand for a 10 to 15 per cent cut, proposed jointly by the Americans and the Organization's committee for education, concerned with policy analysis, has had its budget cut by 300,000 francs. For CERI the cut is particularly serious as it coincides with the ending of some of the special grants from outside agencies which have amounted to 1.7m francs.

But the other factor perhaps has more significance for the future: what is the place of educational research and innovation in an inter-



Le Chateau de la Muette, OECD's Paris headquarters: what place for international research when education growth goes out of fashion?

national organization like OECD when education growth goes out of international fashion?

Members of the CERI council agree informally that the situation has changed dramatically since CERI was set up in 1968 and student protest highlighted the dislocation between existing systems and young people's expectations. Student protest is no longer apparent. The economic recession and youth unemployment are the main problems with which educational systems now have to grapple. But that does not necessarily lessen the case for a body concerned with educational innovation. There has been much talk in Paris about CERI to propose cuts, even though other American education advisers felt that the note should not be taken too literally.

But the other factor perhaps has more significance for the future: what is the place of educational research and innovation in an inter-

Greece

Government climbs down on exam law

by Mario Modiano

ATHENS The Greek Government decided last week to rescind legislation tightening the rules on university examinations which had caused a widespread student agitation before the holiday break, culminating in the occupation of university buildings by students.

The decision was made on the advice of the 13 rectors of Greek universities and graduate schools who were consulted today by Mr Constantine Karamanlis, the Prime Minister. The Greek Government had introduced the controversial legislation in an attempt to upgrade Greek university diplomas.

Greek student leaders have been arguing that Greek institutions of higher education were too inadequately staffed and equipped to claim such high standards from the students. The main grievance was the abolition of the possibility of repeating examinations, twice, in case of failure, rather than once. The meeting decided to set up a commission of all university rectors which is to produce proposals by next March on the necessary revisions to the rules on examinations. Until then the relevant provisions of the law are suspended.

The same commission has been asked to produce a draft for comprehensive legislation covering all aspects of higher education. The student organizations are to be

given a chance to voice their opinions during the preparation of the draft.

The reactions of Greek students to these decisions are not yet known. The present conflict between the students and the state has become a convenient pretext for some anarchist and extreme left organizations to encourage a confrontation with the authorities. What makes this significant is that this movement, evoking memories of pre-1968 Paris, is gaining momentum at a time when Greek students are increasingly becoming disenchanted with the rigid discipline imposed by left wing political parties on their official organization.

Europe

International aid for rights of children

by Hilary Wilce

STRASBOURG An international organization has been set up to deal with cases of child imprisonment and torture. The Geneva-based Defence for Children aims to bring international pressure to bear on incidences of child maltreatment. These include situations where families are separated for political reasons, and where children are abducted to elicit "confessions" from their parents.

Defence for Children was set up in July last year and is now acting on about 20 cases from countries as diverse as Guatemala and the United States, according to Nigel Cantwell, secretary-general.

"In Europe these tend to be administrative cases, cases of wrongful decisions by lawyers. But this is not just western Europe. We have such things right on our doorstep."

The organization plans to try and get action at local or national level before taking cases into the international arena by lobbying diplomats, and by arousing the concern of other international agencies. "The Federation of Mental Health, for example, could do a great deal for children who are in custody," says Cantwell.



Young thieves are brought to Bangui, capital of the Central African Republic, for the punishment of having an ear cut off, during the reign of the self-styled emperor, Jean Bedel Bokassa. Bokassa was last year accused of involvement in the massacre of 150 schoolchildren who refused to wear school uniforms. This case was brought to the attention of Defence for Children, before a coup forced Bokassa to flee.

by publishing a report on the damage imprisonment could be doing to a child's health. Cantwell said, with a dozen countries and in the process of raising £55,000 from voluntary aid sources for its first year's operation.

It was created partly in response to the many requests for individual

help received by the International Year of the Child secretariat for Europe. "Children fall between the cracks of existing organizations," Mr J. F. McDougall, director of the secretariat, said. "An organization which deals with the rights of political prisoners will not necessarily be able to help any children involved in such cases."

West Germany

Working class student numbers drop

by David Dungworth

The ninth report of the West German Student Welfare Organization (DSW) on the financial situation of students in the Federal Republic indicates that fewer young people from working class homes are taking up university places. It is based on the results of a survey carried out in the summer of 1979.

Although the proportion of workers' children in the student population as a whole rose from 13 per cent to 14 per cent between 1976 and 1979, the number of first year students from such families declined from 14.5 per cent to 13.7 per cent during the same period. This downturn reverses a trend which had been evident since the mid-1960s, and represents a set back for the Federal Government's policy of extending the opportunities for higher education to young people from all social classes.

In the opinion of DSW President Herr Gerald Grünwald two main factors are responsible: the failure of grant increases to keep pace with the general growth of economic prosperity in recent years and unduly pessimistic forecasts of the future level of graduate unemployment. School leavers whose parents themselves went to university are, he feels, more willing to disregard such warnings than the children of manual workers.

Statistics contained in the report support this interpretation. Whereas in 1976 84 per cent of students had been awarded the Abitur (the university entrance requirement) at the end of a traditional grammar school course, by 1979 89 per cent of all undergraduates and 92 per cent of those in their first year had gained it by this method. There had been a corresponding decrease in the number who had obtained their qualifications via the Fachhochschulen (colleges of advanced vocational education) or evening school studies.

Herr Grünwald also expressed concern that the proportion of students receiving financial assistance under the Federal Educational Grants Act had fallen from 38 per cent in 1976 to only 33 per cent in 1979, despite the fact that the fact that the threshold for parental contributions has been raised in line with increases in family incomes.

Italy

Reform bill aims to curb professor power

by Dalbert Hallenstein

VERONA Italy's lower house has just approved a bill partly reforming Italy's semi-paralyzed university system. The bill, which still must be approved by the Senate, seeks to streamline the existing university organization by creating specialist teaching departments to replace the present faculty-based system which tends to concentrate power in the hands of a few faculty professors.

The bill also aims to encourage an expansion of research and to create, for the first time in Italian universities, a three-year postgraduate "research doctorate" degree. This will be the equivalent of an English or United States Ph.D. The bill gives at least 35,000 temporary university teachers a chance to achieve full tenure, and attempts to define university teaching as a full-time profession, though making it possible for some teachers to choose to continue working outside the university while teaching for limited, contracted periods. Until now there has been no strict regulation fixing the number of hours a professor has to spend in his faculty, and most of them are therefore rarely seen at university.

Some of the reforms contained in the bill are highly controversial and it is predicted that when the bill is debated in the Senate early this year, some of the provisions will be changed or eliminated. The full-time teaching provision and the incompatibility of certain outside activities, such as the holding of high government and political positions, will be opposed in the Senate. Many senators now hold both teaching and prestigious positions, though most of them rarely teach and attend university only on formal or ceremonial occasions. The creation of teaching departments to replace the faculties is also likely to be opposed at Senate level. Many senators will certainly interpret the reform (quite rightly) as an attack on the present faculty-based university establishment and power structure.

Another controversial point in the reform is the provision which virtually guarantees tenure to all untenured teachers who have already been teaching in universities for a certain number of years. The untenured teachers, estimated at about 40,000, must in the future sit for competitive exams to achieve full tenure. However, these exams are widely acknowledged to be a mere formality. Promotion is almost automatic. This provision has been criticized as extremely damaging to the future academic standards of Italian universities. For the reform will automatically sanctify all the teaching appointments made in the past decade which were often made by the faculty professors more for political or personal reasons than for the academic excellence of the untenured teacher.

The provision has also been criticized because it is likely to make it difficult to appoint younger teachers who are not already established as temporary in the universities. The guarantee of tenure will certainly create a situation of teacher supersaturation in the universities—where the number of students is already beginning to decline. And though the bill provides for the recruitment of 10,000 younger teachers over the next five years, many of these are expected to be a future government, which will be in a position to replace the recruitment guarantee to younger graduates.

OVERSEAS NEWS

France

Protests block plan to put control of universities in fewer hands

by Jane Jessel

PARIS Following strikes and protests from university teachers and students, the French Government has, at least temporarily, shelved a plan to change the system of electing university presidents.

Under legislation introduced by Edgar Faure, then Education Minister, to democratize universities after the events of May 1968, the presidents, who are equivalent to Britain's vice-chancellors, were elected for a period of five years by teaching and administrative staff, and students.

A Gaullist motion up for recent parliamentary debate simply sought to make presidents, who must be professors, eligible for reelection after their term of office. What angered university staff and students, however, was a Gaullist amendment, carried by 274 votes to 200, limiting those eligible to

vote to professors and senior lecturers—fewer than 10,000 in all, instead of the 74,000 formerly eligible to vote.

Teachers, students (including the Gaullist student body CLEP), unions of both left and centre, and political parties were quick to condemn the government's backtracking on the universities' democratic principle. This reform had been recognized as one of the main achievements of 1968 student upheavals.

To the protesters it looked as if the Government was trying to quash an unpopular and fundamental change without any consultation. Reversion to university control by "mandarins" was threatened. Two days of strikes and marches were called in protest.

Unlike other conflicts within French education, political and ideological differences seem to have been put to one side. Senior univer-

sity staff protested: 80 of the 120 professors at the University of Paris at Orsay signed a letter to both houses of parliament against the Government's plans and called for continuation of the 1968 law; and the Gaullist introduced the amendment, Antoine Rufenacht, does not have full support within his party.

The proposition subsequently came to the Senate in December. The Government decided the wisest course was not to change the law immediately, but for the Senate to reconsider the proposal in April, probably in another form.

The division within the Senate of the governing coalition, the cross-benchers' wish to see the matter reconsidered and the doubts of some Gaullists make it less likely that the reform will go through as currently proposed. If it does it could create a minor political crisis as well as a major educational one.

Last of the long hot summers?

The great French tradition, the long summer holiday, could be threatened if proposals introduced by the Minister of Education, Christian Beullac, go through. Teachers and parents are up in arms at the suggestion that the summer break should be cut to a maximum of two and a half months, staggered between June 15 and October 15.

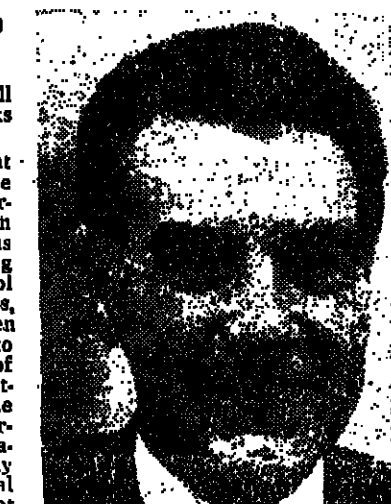
Representatives of teaching unions and parents groups walked out of a meeting with the conseil supérieur de l'éducation national after complaining they had been presented with a fait accompli, rather than being offered consultations. The plan to stagger the holiday is intended to shorten the great summer industrial slowdowns, when practically the whole of the French population takes off at the same time.

The Minister also intends to make the third term more efficient. He describes it at present as "a phantom term, eaten into by examinations and forward planning". Exam timetables will be reorganized, and

planning for the following year will be restricted to the last three weeks of the school year.

Teachers are especially indignant about the proposals not only because their summer break will be shortened—at a time when a union spokesman pointed out, Europe was looking towards shortening working hours but also because school principals will decide the timings, denying teachers the choice of when to take their holiday. According to André Henry, Secretary-General of FEN, an umbrella group representing teachers' unions, the scheme would lead to "an anarchic overlapping without national coordination, to the sole profit of the holiday trade". It would serve industrial interests, he said, but not those of the children, he said.

Another union complaint was that the staggered holiday would leave August as the only summer holiday month common to all regions. Separated families would have to choose that month to go away. And



M. Christian Beullac, now over the summer break.

regions which exchange school facilities during the holidays would no longer be able to do so if their holidays were different.

Australia



Surfing goes on the curriculum

by Bill Purvis

SYDNEY Australian schoolchildren in New South Wales, now enjoying their six-week summer holidays, can look forward to extra time on the beach after they resume classes.

The state education department has added surfboard riding to its list of approved sports at state schools. The sport will be available to all pupils aged 15 and over who attend schools near the coast—about 80 per cent of the school population of that age.

Mr Eric Bedford, the Education Minister, approved surfboard riding as an official sport after a trial period this year at two high schools. Schools adopting surfing as an official sport will have to have teachers with a bronze medallion in life-saving to supervise the beach visits.

New South Wales has had an abnormally dry hot summer so far with the December rainfall figure the lowest since 1959. If this weather continues after schools resume at the end of this month the number of pupils opting for tennis and cricket is expected to decline in favour of surfing. Meanwhile, school pupils in the most northern capital, Darwin, can

now have driving lessons as part of their school curriculum. These children live in the most isolated city in Australia. Everyone in Darwin has a car or motorcycle and schools have recognized that young people will learn to drive somehow.

In 1978 a committee was set up to examine ways of teaching teenagers to drive as part of their school education. Since then the programme has expanded rapidly and now about 500 students are involved. They not only learn to drive but also have the satisfaction of passing a school subject by doing so.

Student driver education is offered as a one-year subject for pupils over 16. It involves 60 hours of theoretical instruction plus 20 hours of driver-training.

The cars and motorcycles are supplied by Darwin firms and the instructors are either qualified teachers or members of the Northern Territory police.

It is too early to tell if the programme is having any effect on the number of pupils opting for tennis and cricket is expected to decline in favour of surfing. Meanwhile, school pupils in the most northern capital, Darwin, can

Mozambique

Teachers sent away for re-education

by Joe Hanlon

MAPUTO Seven primary school teachers have been presented at public meetings in Beira, Mozambique's second largest city, accused of stealing, drunkenness and, in one case, "sexual corruption" with a pupil. Several are to be sent to reeducation camps.

Raul Cuvaça, secretary of the Beira Committee for Ideological Work, told the meetings that the teachers were being presented to them to stress the necessity of "popular vigilance" in the schools. "In the same way as a fish cannot live out of water, a school cannot be successful without the involvement of the people."

But attempts to increase parent participation in schools have been unsuccessful so far, although adult education has become a national mania with more than 250,000 people taking literacy classes last year.

Adult literacy in the country is less than 15 per cent after years of restricted education under the Portuguese. Now the education system is growing faster than can be effectively managed. In 1974 there were 700,000 primary school pupils. By 1977 this had jumped to 1,200,000 and it is now 1,500,000. Compulsory primary schooling by the end of the decade is the country's prime education goal, but there is a desperate shortage of trained teachers.

Malta

Sixth formers go to work in radical secondary rethink

by Carl Slevin

Secondary education in Malta is to be radically reorganized in the course of this school year by major curriculum changes, the introduction of an apprentice/pupil scheme for sixth formers, and financial squeeze on the private sector.

The curriculum changes divides pupils into two general groups at 13-plus: Those motivated and able to successfully finish an academic-based course and those "not motivated and/or unable to follow successfully O level examinations", according to an education department circular. Both groups take four major compulsory subjects in their third, fourth and fifth years, Maltese, English, Arabic and mathematics. Those of the first group who intend to go on to do any A levels must also take physics. In addition both groups take religious education, physical education and civics as further compulsory subjects. Pupils in the first group select two more subjects from a list of 16 options, while those in the second group take an integrated science course as well as needlework and home economics in the case of girls, and maintenance crafts in the case of boys.

The imposition of Arabic as a third compulsory language for all pupils is a clear reflection of the Government's efforts to draw closer to its Arab neighbours, especially Libya, with which Malta has a special, if occasionally troubled, relationship. Arrangements have been made with Libya, Egypt and Syria to provide Arab teachers for state schools.

Sixth form education in the state sector in Malta is concentrated at the Lycium, a sixth form college, but some private schools also provide facilities for sixth form work.

From the current year, however, all entrants to the state sixth are obliged to join the apprentice/pupil scheme. This means that instead of full-time academic education for a standard two years they now undertake a five months study/five months work sandwich programme with two months' holiday.

However, because of the requirement to pay young and untrained personnel for the whole year in return for only six months work, it seems unlikely that more than a very few private employers will sponsor apprentice-pupils.

The government claims that these payments will make it easier for the children of poorer parents to stay on at school and to go on to higher education with the help of the student-teacher scheme which operates like the apprentice-pupil scheme at that level. The benefits are not as great as they seem, however, because parents who receive the payments will lose the children's taxation allowance from their coding, and will be taxed on their income including the extra £M2.

Last November's entry, the first after the introduction of the scheme, has been predicted at around 600, but reached only 300. It seems unlikely that there will be any improvement when the next predicted 600 are due in May.

The private sector has been squeezed for months ends. Its fees and the capitation grant paid out of taxation have been frozen since September 1977, while its costs have increased over and above the rate of inflation as a direct result of Government action.

Cost of living increases in wages in the period amount to £M7 (£9) a week for each employee and employers' national insurance contribution have increased by £M1.50 (£2) a week. The curriculum changes have also increased costs.



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LETTERS

Teachers' right to be on top of the pay pile

Sir.—In the TES of December 21 ("Clegg puts teachers on top of the pay pile"), Mr Peter Clegg of the Association of County Councils is reported as saying that if the members of the panels concerned with the INRUCON assessment of teachers' jobs had known more about the work of export and production departments, teachers would have been placed lower in the list of relative rankings.

Early in my working life, I gained experience of work in an export department.

Later I was involved for several years, in a large company, in coordinating the production and marketing of a product. Clearly, it is not possible here to give a full job description, and in this context perhaps the best indicator of job-level is the fact that when I left this employment my remuneration, including the value of free lunches, assisted insurance, and cheap mortgage, was equivalent to that of a comprehensive school headmaster.

Having now worked for several years as a teacher, I am able to compare the experience of a teacher with the sort of jobs which Mr Clegg seems to have had in mind, and I am in no doubt whatever that teachers should be placed very near the top of any ranking order of jobs of this nature. The work of a teacher is physically more arduous, and is as demanding mentally. Decisions are generally of a different type, but can be just as difficult and sometimes more worry-

ing, involving as they often do individuals rather than commodities. While one person's experience is obviously not sufficient as a basis for grading complex jobs, it is just as inappropriate for Mr Clegg to seek to cast doubts on the validity of the INRUCON findings because they may not fit the employers' apparently rather low opinions of a teacher's work.

L. F. BARNES,
Lovelace Drive,
Woking, Surrey.

Free-range sixths

Sir.—I was interested in Geoffrey Wollard's letter on the links between the maintained and the independent sectors (December 21). I would like to question his assumption that all movement between the two sectors is likely to be one-way, i.e. from the maintained to the independent sector.

Many of us who work in comprehensive schools in the maintained sector would like to see our sixth forms open to youngsters who have received their earlier education, in whole or in part, in the independent sector. We can offer them a range of subjects which will lead them towards higher education and other job opportunities. We are also able to offer them the advantage of receiving their sixth form education alongside their contemporaries.

Let us scrap the Assisted Places Scheme and use this not incon-

siderable sum of money to improve further the standards of our comprehensive schools and their sixth forms.

M. E. HUTCHINSON,
Frank Wheldon School, Carlton,
Nottingham.

Sir.—John Roe (Personal Column, December 28) may be right to try and explode what he sees as the "myths of the public school" in the recent Open University Unit in particular. ("If Madeline Macdonald had ever visited the public schools, ...") but he should avoid making the kind of apparently unfounded comment which he is criticising, in his only reference to comprehensive schools. "Anyone who has attended assembly in a comprehensive school, will know ..."

ROBERT FRENCH,
Head of Upper School,
Henbury School, Bristol.

Sex and politics add up to propaganda

Sir.—You announce (November 16) that Make It Happy has received an award and list some of the contents of the book. The judges described the book among other things as "wholesome" and "honest in its intentions".

It is surprising that such eminent judges did not recognize the main object of the book. This is made blatantly clear on the second page, where it is stated that the publisher's aim is to "organize in large numbers that we become a political force ...". The whole approach to the subject of sex is set out with this "political" factor in mind. Thus the facts are seen in a totally mechanistic light, separated completely from any true understanding of the human condition. Sex cannot be separated from morality, love and the social forces which blend to create a civilized society; but all this is denied.

Fervours and deviations are recommended in the book with just the right degree of suggestion that perhaps there is no reason why society has formulated these attitudes. This comes out more clearly in the chapter Sex and the Law, where there is from the outset a failure to recognize why law has to be applied to

sex. The comment, "Such an old-fashioned view of sex needs a matter to most people" sums up this subtle attempt to undermine the control which is so necessary to protect the innocent and the innocent. "Pornography and censorship are very controversial issues," says the writer, and then proceeds to distort the facts so that one is not clearly informed how the present law stands.

It is this playing with half-truths which paints a picture of liberalism leading on to experimentation—and all the increasing evidence shows that it is just this sort of sex education which is promoting the permissiveness which is having such a detrimental effect on the health and potential happiness of our young adults.

It is therefore disturbing that The Times Educational Supplement has given its name to a book which, while attempting to be scientific and factual, is in fact setting out its very clear aims to alter human behaviour by taking sex out of its context and denying the overriding importance of the sex act as a seal on human relationships.

S. F. ELLISON,
Chairman,
The Responsible Society,
28 Portland Place,
London W1.

Coping with change

Sir.—Tucked away in the penultimate paragraph of Maurice Holt's article on curriculum change ("Change through the backdoor" (December 21)), lies a statement which is at the heart of problems in schools which fail to respond to the need for change—viz. "Schools alone cannot meet the demands of the change process on top of their normal tasks".

Teachers in our schools have in the last twenty years, had to cope with an enormous range of philosophical shifts. The old routines and apparent certainties of selective schools have gone. This has taken place without any real commitment to the provision of time for planning and evaluating new ways of working. Schools must especially those in secondary schools often give their lunchtimes and evenings to this end, but the scale of the change has in many cases been so great that no series of voluntary meetings can hope to cover all aspects of developments in pastoral work, community commitment, assessment procedures, subject con-

tent, school government, social experience, parental contact, inter-disciplinary work and other curricular planning.

It is a rare teacher who has the energy to consider these major change needs, his day to day teaching, family commitments and leisure pursuits in depth. That they exist as an extraordinary undercurrent condition, and in most cases is a humbling experience.

That enough concerned and able professionals exist in our schools is undeniable, but we cannot expect the assembly line worker to do his job and redesign the model. What teacher requires time to plan, research, implement and evaluate new strategies and that these activities should comprise at least 30 per cent of the working week. Only when the models for change are self-generated and time is given for their proper consideration will people be able to cease to need artificial creation.

JOHN SOMERS,
School of Education,
St Luke's,
Exeter.

Extra minus esperanto

Sir.—Once more an "Extra" on modern language studies (November 16) but no mention of Esperanto. While other school departments use simplified models to demonstrate basic principles, the language teachers are stuck with their "occasional" use of the "rule" almost from the word "go".

Yet the first term of secondary school would be sufficient to enable demonstration of the basic principles of language construction,

using simple, regular Esperanto: this gentle initiation to a second language also improves understanding of one's first.

It is not just in the world of espionage that people in high places have, over the years, been able to withhold information which they think not good for us.

TES HARTIDGE,
Reading mathematics teacher,
74 Daventry Way,
Shirley, Croydon.

Survival of English

Sir.—I read with some amusement Peter Shepherd's letter (November 30), particularly his opinion that "the translation of the Bible in the sixteenth and seventeenth centuries was not in respect of scholarship, the accuracy of more modern translations".

I suggest that Mr Shepherd read

Jan Robinson's book *The Survival of English* (CUP 1975), especially Chapter 2. Better still, Mr Shepherd should learn Hebrew and Greek; he would soon revise his opinion of the accuracy (sic) of the more modern translations.

W. B. BAILLIE,
Blomfield Road, Stockport,
Cheshire.

Exam rights and wrongs

Sir.—The fallacies of which Mr Davis and Dixon try to convince do not stick (Letters December 21).

After adding in the PE pass and adjusting the figures of pass in proportion to the actual pass aged 17/18 (the A level age), the declines between 1971 and 1972, the pass rates:—

	Boys	Girls
English	14	16
French	21	18
Maths	15	18
Physics	4	11
Total Subjects	1	1

The comparison with 1971 is significant that with 1960 came the reorganization after which 10/65 could have had effect until the early 1970s, conversely the later 1960s, showing the benefit of the present school expansion.

Moreover, the falls in the maintained schools were deeper than those above because the third schools, with about 20 per cent of the total passes, showed a fall of about 10 per cent in the period. I drew particular attention to the trends in modern languages and physics, adding a further detail to the desecrated evidence of the 1971-1972 trends are of no importance.

R. W. BALDWIN,
Alderbury Edge,
Cheshire.

Pay nurseries

Sir.—There are many good nurseries against charging fees for very early education, but one of them does charge. But if parents are to be given a say in the education of their children, surely they should be offered the alternative of paying what they really want and secure and placing an end to the matter?

How much to charge and how to collect it, are doubtless to be decided by the local authority. But in exactly the same way the money for music, drama, dinner refectory, etc., etc., are not paid for by the parents but by the schools where the children are sent. Why should the alternative of paying what they really want and secure and placing an end to the matter?

MRS FRANCES E. MASSEY,
Little Kingshill County Council School,
near Great Munden, Bucks.

Factorization in Dorset

Sir.—Re "Maths Teacher" (Dec 21), D. B. Preece on page 12, to know that his method of factorizing a quadratic expression is short and well and in regular use in Dorset.

Although my experience does extend over 40 years, I do not find this method is not found in modern textbooks. I have found that pupils easily understand the method, particularly when it is related with the multiplication of two factors, since one is the reverse of the other, e.g.:—
(2x+3)(x+4) = 2x² + 11x + 12
(2x+3)(x+4) = 2x² + 8x + 12x + 12
= 2x² + 11x + 12
To factorize 2x² + 11x + 12, find a pair of factors of 24, whose sum is 11. Thus:
2x² + 11x + 12 = 2x² + 8x + 12x + 12
= 2x(x+4) + 3(x+4)
= (2x+3)(x+4)

This method can easily be shown in the general case, is easy to use, and provided that the expression is factorizable, will always give the answer. It would be interesting to know why it is not included in textbooks.

G. A. F. SMOOK,
Belle Vue Road,
Bournemouth.

LETTERS

Hypothetical trainees

Sir.—The figures provided by Mr Alan Gordon in his article, "Who would be a teacher?" (December 21), do not necessarily support his main contention, that fifth-formers are ignorant of the profession with which they have so much daily contact. Furthermore the educational climate has changed so much since 1975, and his assumption that a reasonable number of them will proceed to teacher training has become even more questionable.

No challenge at all Mr Gordon's figures would be a lengthy screed, consequently I concentrate on just a few, and hope that this does not result in an unbalanced criticism.

On the whole his figures indicate that the opinions of girls are different from those of boys, rather than that either are ignorant about the teaching profession, the nature of it, or the prospects in it. Indeed the marked drop in application for places in colleges of education (noted recently in the TES), may well suggest that pupils are very much aware of salary comparability and the problems of unemployment.

Twice as many girls as boys said they would be worried about keep-

ing order in a secondary school. It is possible that the secondary school experience of girls more greatly fosters this feeling than is the case with boys. If this argument and other alternatives already put forward are accepted it is not really surprising that two thirds of the girls and only a quarter of the boys show preference for a primary school career. In addition, though sexual stereotyping is frowned upon, it may be that boys rather than girls are less ready to accept the inescapable baby-minding aspect of the primary teachers' task.

In conclusion I stress that the results of the survey may be based on premises, even a multitude of premises, which have not been considered by Alan Gordon. It would be interesting to have more information about the composition of the sample used in the survey, particularly as one difference between grammar school pupils and others is briefly referred to.

D. J. SMITH,
Eden Mount School,
Grange-over-Sands,
Cumbria.

Even in 1973 the demand for teacher training courses was falling (see *Colleges in Crisis*, Hencke D. Penguin, 1978, pp 57-58). This was a time when some now diminished colleges were still planning an even greater future.

Sixty-one per cent of the girls and only 25 per cent of the boys showed a preference for primary school rather than secondary school children. Surely this preference is all the figures do show, that the preference is a reality, and has nothing whatsoever to do with ignorance. That 69 per cent of the girls and only 44 per cent of the boys considered primary school teaching to be more rewarding than secondary school teaching could be because the girls are more discerning than the boys in noting what may in fact be true. Or could it not also be that the primary school ethos is more acceptable to girls than to boys? The questions used in the survey do not eliminate these alternative hypotheses any more than they support hypothesized ignorance.

Twice as many girls as boys said they would be worried about keep-

Fire power

Sir.—A. J. Waterman suggests (Letters, December 12) that head teachers' inability to fire incompetent or idle teachers leads them to promote such teachers out of the classroom. I fiercely reject this suggestion as naïf, cynical, dishonest and/or scurrilous.

My 11 years' experience as a headmaster, after 12 years as an assistant teacher, leads me to believe that heads' policy, in respect of inadequate teachers, is to place honest dealing before their schools' and their own interests; they provide factual references which result in the withdrawal of such teachers leaving their schools; they refuse to promote them and learn to live with the bitterness which often ensues.

This, A. J. Waterman, is what I call the dilemma of integrity. What do you call it: and why?

M. E. LEE,
Station Road,
near Tamworth,
Staffs.

Russell appeal

Sir.—Bertrand Russell, one of the most important philosophers of this century, symbolised academic honesty in many countries and the Nobel Prize for Literature, revered by multitudes all over the world for his undying efforts for peace and human understanding, has not so far received the recognition that is his due.

Permission has been given by Camden Council for the placing of a bust of Russell in central London in the gardens of Red Lion Square and a committee has been formed to promote the project. Robert Davis, President with Peter Crawford, Chairman of the Bertrand Russell Society in the United States, and members of Russell's family are giving encouragement to this venture.

We think that there will be many admirers of Russell and his work who will wish to contribute to the cost of the memorial and we invite them to respond to this Appeal. The sculptor will be Marcus Quinlan. SIR ALFRED AYER, LORD RITCHIE-CALDER, DORA RUSSELL, LORD BROCKWAY (Chairman of Appeal Committee) FRANK DOBSON, MP, LORD WILLIS, PETER CADOGAN (secretary), JOHN GILMOUR, BARONESS WOOLTON.

Bertrand Russell Memorial Appeal, care of SPES, Conway Hall, 25 Red Lion Square, London, WC1.

Letters for publication should arrive by Tuesday morning at the latest. They should be as short as possible and should be written on one side of the paper only. The editor reserves the right to cut or amend them if necessary.

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features

REPEAT IN ITALIAN:
THERE HAS BEEN A MISTAKE.
MY FATHER IS NOT RICH.

PAINE

features

continued from previous page

points of view to extend the compulsory period to three years, but not to spend the compulsory period studying always the same language.

After the first year, when the aim, stated and agreed with children and parents, will have been to give every child the ability to get by in, say, Spain, with a small collection of phrases, some basic knowledge of the Spanish environment, and an insight, however small, into the world of language, the next year their learning could be extended by taking in another foreign country, and another language, treated in the same way; and in the third year, yet another.

In this way, curiosity and therefore motivation are more easily maintained. But to keep children for three years on the same language is, for many, a story of increasing failure and hostility; it has also been shown that such an extended experience builds up antipathy not only to the subject and the teacher, but to the foreign country as well.

At the end of these three years, a further two years of study should be offered to all, but only volunteers would be accepted. Probably the language offered will be the one studied in the third year, but another can be started later by those who are enthusiastic, and who will already have tasted it for a year.

During the three compulsory years, only a small proportion of the five-day week needs to be claimed by the language staff. Two or three periods a week are enough, and a short visit to the foreign country should be accepted by parents as an essential component of the course, and some of them should accompany the party.

But in the fourth and fifth years, the volunteers need to concentrate on the language for much longer periods, and the language department should be paid back for the time they have not used in the first three years by being offered during the next two at least a whole morning and a whole afternoon for intensive learning.

Such a method implies the sacrifice of a sacred cow that used to be worshipped by language teachers, the drip-feed process by which the language was fed in for four or five short periods each week. It has not proved effective, and often it was only insisted on by teachers who could not contain, for longer periods, their classes of conscript learners, who had become bored and frustrated with the same menu of dust and ashes for five periods a week.

The language lab, once thought to be the means by which instant French could be induced, has proved a total failure with the average child and the average teacher. Mechanical learning has proved even more boring than when a human teacher was using her voice and her gestures; and the machines of course offered an ideal means of relieving boredom: by turning knobs and unscrewing terminals the victims could soon complain that it was not working.

This, of course, does not disprove the value of language labs for motivated adults, and cassette tape-recorders are an almost essential adjunct to any language lesson. But school language laboratories, introduced at great expense over the past 20 years, have contributed little except to the profits of the manufacturers.

Learning a language can be effective and valuable for the majority in a comprehensive school, but the process should be divided into two stages. The first is a tasting experience, where the aims are limited but are seen to be worth while. The second must be undertaken only by those who want to continue to learn the language, whatever their ability.

But their extended learning should not be limited to two years. Every school-leaver should be offered a voucher for further learning in a school or college. This would make sense in a world where useful leisure will soon become as important as useful employment, and where travel abroad involving communication with native speakers will become increasingly sought-after by all.

Can these arguments, already supported by many teachers, and by research, be accepted by ministers and their advisors?

Harry Rée, a former grammar school head and professor of education, now teaches modern languages at Woodberry Down School, London.

'We had to contrive individual attention before, but now it comes naturally: there's time just to stop and talk to a child'



Virginia Makins finds that Manchester primary teachers are making good use of the breathing space provided by the effect of falling rolls on the size of their classes. Pictures by Homer Sykes.

"These children will get what the best prep schools give—and much more, with all the creative work we do", said Josie Hobbs, head of St Peter's Roman Catholic Infant school in Manchester.

Falling rolls, combined in some districts with the vagaries of housing and rehousing policies, have meant that some primary schools in Manchester have recently seen a sharp decline, both in overall numbers and in class sizes.

I visited five of them. They catered for very different neighbourhoods, and their approaches varied. But in every school except one, teachers were unanimous in their conviction that they were achieving far higher standards, and doing much more for children and their families than when schools and classes were bigger.

Their experience seemed to raise important questions about how far relatively expensively staffed and equipped small schools can pay their way by removing the need for much crisis spending later on—on special education, remedial education, social services, mental health and so on.

St Peter's is on a big, established housing estate in Wythenshawe. Ten years ago it had 188 children—now there are 85—with another 56 children, mostly full-time, in the large nursery. Including the head, and a home liaison teacher, there are eight teachers.

There is space both for a well-equipped room for mothers and toddlers, and a family room where parents come to sit, work with children, or attend newly-arranged adult classes. The staff are actively trying to extend relations and activities with parents—and in the process, finding out how much they had unconsciously made communication difficult in the past.

They brim over with enthusiasm about how their work has changed since class numbers settled at around the 20 mark. But they do not want them to shrink further. There seemed surprising unanimity among all the Manchester teachers I talked to (with the exception of one junior school) about the size of primary classes.

Somewhere between 20 and 28—the lower figure for infants, the higher for juniors—apparently feels just right. Below 20, the teachers say, it goes "dead", you "lose the spark". Above 30, "you start relating to groups rather than individuals, and work by finding ways in which groups of children are similar, instead of noticing individual differences".

In all five schools, teachers pointed to some disadvantages with small groups. Able children can miss out on competition. In activities like physical education and dance, all children can lose pace and initiative.

At St Peter's these disadvantages were easily overcome. They double up groups for physical education, freeing a teacher to get on with preparation and planning. They take out able children from more than one class, to stretch them at writing or science.

"I used to put on an experiment every week with my big classes; but it was hard to follow up. Now the able ones can pursue it and I have time to watch and listen", said one teacher.

Above all, small numbers give the teachers time—to listen to children, discover what they know, extend their language. They discover surprising areas of ignorance—such as the child who thought a peach was a round black thing.

They can take young children straight through a short reading book, instead of breaking off after two pages and losing the context.

Behaviour improves—there are fewer fights in the playground. The whole place becomes "more friendly" (a phrase I heard very often).

In a recent article on research into the effects of class size, Clare Burrall concludes that results are "conflicting, inconclusive and disappointingly meagre". ("Time to mend the nets: a commentary on the outcomes of class-size research", Trends, Autumn 1979).

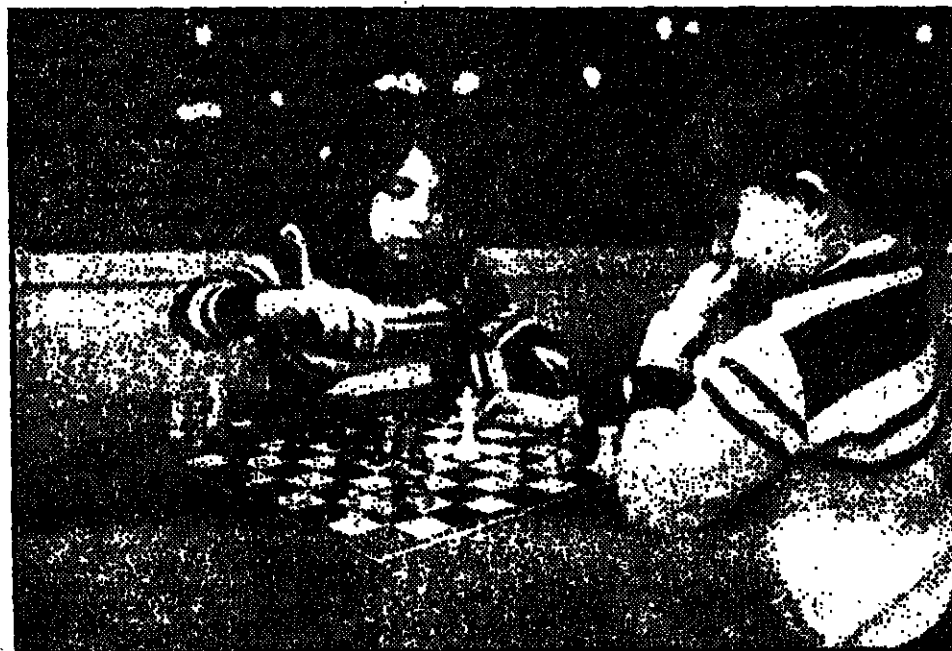
She points out faults in the research design of widely quoted studies, which purported to show that standards improve as class size increases. Much of the research concentrated on a very narrow band of educational outcomes, measured by the blunt instruments of standardized tests.

Recent studies, she says, have tended to show that children do learn more at primary level in smaller classes—even on the evidence of narrow achievement tests. But studies which set out to observe how teachers function suggest that many do not adapt their teaching styles to make the most of smaller classes.

That last finding may explain teachers' views in the odd school out among the five I visited. Charlestown Junior serves a vast old estate on the leafy northern edge of the city. It was built for 540 children, and until recently had several streaming classes. Now, with 186 children, streaming would be impossible even if the head wanted it, which she does not.

But four of the teachers felt strongly that they would rather teach 40 children in a streamed class than 20 in an

features



More time for drama, music, chess and gymnastics can help these Manchester primary children tackle their maths and reading.

unstreamed one. They admitted that in small classes they knew the children much better. But they felt this was not in itself much of an educational advantage.

"You get bored with the children you've got", said a youngish teacher. But an older man said: "A small class is not so self-reliant, they're everlastingly at your desk, they're much more demanding".

These teachers talked of the effect of "one rotten apple in the box", and explicitly said they were talking of rotten intellect, not behaviour. "With a B class you know their limitations; you do little and often and checking up."

Armitage primary is in a pretty devastated bit of the city, lived in by families who face considerable material and social difficulties. There the staff don't mention limitations. They talk of children's achievements—at music, drama, gymnastics, chess. The head says she gets cross when teachers from the suburbs refuse to believe her "inner city" juniors regularly get a Grade IV in Associated Board music exams.

The school has 120 children aged three to 11: four years ago there were more than 200. There are nine teachers, including the head. As in all the other schools, small age groups meant some children had to be taught in mixed-age groups—when most teachers would have preferred single-aged classes.

Apart from that, the teachers like the size of the school. "You dread a transfer," said Eric Wright, the deputy head, who teaches older juniors. "The most important thing is that the nursery children know Eric," said Wynne Harris, a confident ancillary.

All juniors play an instrument—and since the school has no music specialist, every teacher decided to learn one alongside them—backed by the excellent peripatetic music service. You see six-year-olds laying out a chess board, and settling down to a game. There is badminton before school on Mondays, clubs after

school most days, and old students keep dropping in on their way to and from secondary school.

"Things like music and gymnastics make the children much more self-confident", says the head, Heather Stemp. "It helps them tackle maths and reading".

Reading standards have improved in recent years, but the staff are not satisfied.

"The remedial end has diminished. We've got them barking at print beautifully. But the upper end hasn't budged", says the head.

The school used regularly to be broken into. Now breaks are rare. And the small size of the school helps when dealing with individual behaviour problems: "Everybody knows about a child, and everybody knows the plan of campaign".

Royce is another all-through, three-to-eleven inner city school with a high standard of music and gymnastics. It's in Hulme, just opposite those medium-rise blocks of dingy concrete that Granada TV programmes have made notorious.

Partly thanks to Manchester's newish policy of decanting young families out of the blocks, numbers have slumped from over 400 to 200. As in the other schools, this means plenty of space for mothers and toddlers—and the steel band. The teacher-pupil ratio in the school—infant groups are around 16—now matches those in special schools, so there is no point referring borderline children to give them the benefits of small classes.

In the past few years, measured standards have gone up. There used to be, in this predominantly black population, a gap between adequate non-verbal test scores, and poor maths and verbal reasoning ones. Now all the scores have improved, and the gap has closed.

"The general atmosphere in the school is much better," said a teacher. "There are fewer behaviour problems—they used to come because children were seeking attention in a big group." There is more time for parents too—and relations with them have further improved since the



school has had a one-third share in a home-school liaison teacher.

The head, Joyce Durrill, says they always tried to give children a feeling of getting individual attention: "We had to contrive it before, but now it comes naturally: there's time just to stop and talk to a child."

Perhaps as a result, the children seem remarkably competent socially, and chat away at dinner to strange adult visitors.

Hanbury Wilshire, who teaches top juniors, said: "There's time for extended reading, taking an interesting book with a group. There's time to sit and discuss things with the able ones. With a big class, you never had time to listen."

Lower down the school, teachers say "we have time to give them the language experience they'd get in a good home." But at Royce, and the fifth school I visited, Openshaw C of E primary, you also see the rub. Small schools and classes are fine—but not when low numbers threaten the existence of the school. "If numbers were stable, this would be an ideal size—but at the moment they're unstable, and it's not a happy situation", said Joyce Durrill.

Openshaw is a notably friendly school for 120 children, in a building, designed for many more, that opened in 1972. Last year there were two infant classes in space for three—now there is one. "If a family of three children move away, you notice", says the head, Harold Bowcott.

New housing is being built, and more families with young children may move in. But it isn't certain. And there is enormous overcapacity in the neighbourhood schools. "Local people say they don't know why this school was built—you could see the difficulties even before the fall in the birth-rate."

Manchester education authority has moved cautiously in tackling the issue of falling rolls and new housing policies. They are only now drawing up rationalization schemes, district by district, with inevitable closures and mergers.

But unless the Government forces dra-

stic changes in the level of rate support grant, Manchester is likely to go gently. Current plans will mean a worsening of the primary teacher-pupil ratio—but only to 1:21.4.

In many other authorities, with less historic commitment to education, pressures to let class-sizes slip back up into the 30s will be harder to resist. Other pressures—to abandon plans to convert spare primary space for pre-school use, to cut "extras" such as peripatetic music services—are already having an effect. And many experiments, pioneered in authorities such as Manchester, will not now spread to others—the home/school liaison teachers are a good example.

Visiting schools like these Manchester primaries, it seems there may be considerable social and cost-benefits in staffing schools so that teachers have time and space to work with, talk to and—most important—listen to individual children, and of providing pre-school facilities in schools, and links with parents of under-fives.

Some recent evidence points to benefits of parent involvement and pre-school services—fewer children in care and on the battering register, in districts with nursery schooling in Devon; better attitudes to school five years after a home visiting scheme in the West Riding; prevention of failure at secondary stage among children who took part in American Headstart programmes.

There is no evidence that standards in city schools have gone up simply because numbers have gone down. But the subjective experience of the Manchester teachers suggests that numbers may be very important.

Certainly, looking at the schools, it seems that keeping class sizes well down in the 20s, and keeping schools at the 200 mark or even below—well below for infant-only schools—can make for an impressive level of achievement and social competence in inner city children, and might well relieve a lot of expensive failure and stress among teachers, children and families.

مكتبة في الأصل

this can do to their pupils

A now and overwhelming need arises (as a rule) in the mid-teenage years when the next stage takes place. The adolescent characteristically wants a rapid and total answer to the problems of reality and fluidity of it in a comprehensive explanatory scheme to which all detail is subordinated. Abstraction takes over the place of the particular. The philosophic "stage" characteristically reacts with contempt to the "mindless" fact-gathering of the romantic stage, and in its fear of the despair that would ensue if the strait-jacket of the imposed world view were to vanish tends to become ruthlessly abstract of construction. Lastly, the immature mind is liable to misjudge the future to be a knowledge and learning arrives (if it does arrive) with the recognition that the external world should be

to push on into the next stage before the recipient himself is able to make the move, though the teacher will constantly keep the door open and perhaps show the signposts lying beyond. Indeed, as evening falls, the traces of those persons always remain in the mind, as the sun's rays are in the atmosphere. The fully formed person can become so only if he allows mythic, romantic and philosophical elements to surface in his mind, benefiting from all his previous knowledge. Without a sense of mystery, a belief in the existence of a will, and a capacity for understanding knowledge in general, no mature understanding cannot even be reached, nor can it endure under the more earlier ways of comprehension remain available to the enquiring mind. The point is recognized, for instance, that those who will speak of the childlike quality of Einstein's mind: his mind was not in the least like that of a child, but he had not lost the ability to think with equality in all the ways tried on the road to ironic maturity. How does all this work out in the practice of the teacher?

The ultimate end of education is to assist the experience of maturity based on general understanding and sympathy. The former is an end in itself, the name of his place can be without the active initiation of the developer himself the pleasure in moving him forward is strictly limited. At Andover, the guiding teacher has never been realized in any phase beyond the pleasure in education is likely to do harm. At the very best it rethinks our current concept of education is a universal seems to have some of the of a false god.

The Pig Organ, the new children's opera by Richard Blackford and Tod Hughes, given at the Round House in London, turned out to have less to do with musical fun and games than with gluttonous affairs laying about them with strings of sausages, with elephantine porkies masquerading as steamrollers, and brazenonian chops as boomerangs. Children of all ages relished that part of the

The plot of *L'Age d'Or* concerns a couple (Gaston Modot and Lys Lys) who are prepared to break free and share this love, despite the disapproval of their family, friends, grounds, the state, religious feelings and their own mental turmoil. It is explained in Freudian terms, which persist in trying to force them apart. The action is deliberately sacrilegious, irreverent, transgressive and blasphemous. It states these things to an audience similarly to abandon their chains of self-incarceration.

The Vicomte de Noailles accompanied his wife, to whom the film was dedicated, to the premiere at Studio 28, the avant-garde cinema, where he was the trouble which was soon to be heaped upon his head. He had enjoyed the film and

The surrealists had issued a simultaneous manifesto, expanding on the issues raised by the film and, in response, *L'Action Provençale* and other contemporary papers had encouraged its readers to take direct action to stop the film being exhibited. Studio 28 suffered three days of constant physical attack and disruption by right wing youths, culminating in the complete destruction of the theatre's interior fabric. For two further days, the film was shown in the

This is the first of a new series of television reviews by guest writers. Roy Fuller, poet and author, was governor of the BBC from 1972 to 1979.



Embarrassed by his owing such a combustible property, the Vicomte, whose pursuance has given him the sole ownership of copyright, withdrew the film and in 1934, lodged it in his archives. Although the film has regularly been seen out of copyright in Britain since then, the Vicomte's daughter has recently negotiated new rights of distribution in Britain with Derek Hill of Essential, backed by the guarantee of full distribution around the BFI's regional film theatre circuit. It is currently showing at the ICA cinema in The Mall.

The pig organ itself consisted of the six piglets, each of which was capable, when pointed at and discreetly prompted by the harp, of emitting one solitary note—a game not unlike playing upon a row of tumblers, each filled to a different level. It was parsimonious of the composer to find so very little for this splendid invention to do—more than a shaky scale and concerted "eeks". Surely what was

waited besides were some good honest grunts and unimpaired squealing. Certainly the night was horribly well behaved, and it seemed odd that in a children's opera there should be next to nothing for the children to sing.

There were agreeable enough numbers for the adults (Holmes Walker and Jack Irons outstanding in the cast [that I saw], some fun with newfangled instruments like the "swinlon" and "xylobrother" nicely atmospheric interludes, and

efficient (if somewhat treble-heavy) writing for the orchestra is a sight. But *The Pig Opera* lacks musical panache, and neither the composer (who conducted) nor the producer did justice to the potential of Ted Hughes's libretto. Parkyn's sleight of hand, the uncertain tone of the show may have been due to an uneasy feeling that there might be a black pudding—at even a palatable—hidden somewhere between the lines.

books

Teachers to heads, heads to parents, ministers to judges

Christopher Price on what accountability really means

Accountability in Education. By Tony Becher and Stuart Machure. NFER Publishing. £7.95.
Accountability in Education. Edited by John Lello. Ward Lock £3.75.

Both these books are late offspring of Mr Callaghan's speech at Ruskin College, Oxford, in October 1967, when he said "a great debate" which followed it. They are part of that widespread discussion throughout Britain that the speech was designed to create; and to that extent, I suppose, they justify Mr Callaghan's decision to make the speech and start the debate. Although Mr Callaghan never mentioned the word "accountability" throughout the whole speech, both books assume that that was what it was really all about.

Mostly, I suspect, that speech was a—relatively—successful attempt by the then Prime Minister to steal a few Tory clothes by indulging in a personal complaint about education, thus placing himself firmly right of centre in the political spectrum, and simultaneously distancing himself from the “progressives” of the sixties, on whom some of the blame for our social ills could be gradually unloaded.

However, for all personal and political motivations for the speech, folk took it seriously. In particular the Social Science Research Council

Extending across this horizon is the idea that there is too little accountability by practitioners of education in Britain, and that such accountability ought to be increased. All this is nothing new, says Macleure, recalling the "Revised Code" of 1862 and "payment by results". Too true. But if it is nothing new, it should be remarked that in England it is peculiarly the teachers who are hounded by Codes and "payments by results" and demands for accountability. Doctors,

The trouble is that they do not necessarily want the same things, and each has a different way of doing them. They are all after the same thing, but they have different objectives. They have different values. Politicians tend to want better value for less money, and academics tend to want more money for a less planable system and parents a combination of basic skills and all those frills that once were the privilege of the few. As Tony Blair says, "It's not a simple matter to marry with the new-found pluralism that is now the English educational system?" Certainly academic researchers can construct systems—such as they do the best—where a child's marriage is apparently possible. But can such constructs have the slightest effect on what happens in the classroom when the doors closed and the teachers see the children, and the children see the teacher, and the teacher is alive to all the dangers here?

It is a criticism which applies as much to the techniques as to the Assessment of Performance Unit as it does to those, like Dr John Rhodes Boyson, who would like to publish every exam result. Measure and measure, say critics, without psychometricians nor politicians as a key. They plump for a typically English, "softly, softly" formula—a "CNAAs" for Schools—a body of teachers to monitor teachers and pupils, to set standards, to prepare, to raise standards which is exorted by the actual CNAAs at the moment on college and polytechnic departments. It is not quite clear what happens if a school consistently fails to raise its standards to close to the target. But the idea is a sensible suggestion to fill the gap left when full five-yearly inspections ceased in the early 1960s. HMIs could then become "big soft" inspectors. Arguments about standards—there are not longer enough of them to do the

John Lello's collection of worthies provide more of a picture of the world of education as it is, than theories. Now it might be, from the likes of Fowler, Brault, Brault, ex-ILEA boss and Sheila Browne, incumbent chief HMI to a succession of teachers and heads, we get a picture of a world so hemmed about with checks and balances that accountability seems to get lost in the job. Explanations proliferate, and the heads to parents and bureaucrats bureaucrats to political bosses, even ministers to judges. We get a picture not so much of a secret garden as a noisy and quarrelsome tower of Babel; accountability emerges with a confusion much like Humpty Dumpty's - glory! "When I use a word"

I emerged from these two books increasingly dubious of the usefulness of the word to those engaged in education. Clearly, educationists must try to regain the confidence of the consumer—whether that shadowy entity be identified as industry, the parent or the child. To this end teachers must try to explain what they are doing—though not at the expense of the doing of it. But I suspect that characterizing these manifold explanations as “accountability” all too often becomes more air than if clear.



Leon Trotsky

Jan Grey's account of Stalin is pitched at a somewhat more scholarly level than Segal's account of Trotsky, in that he employs a large number of Russian sources along with the obvious English ones. It is still a rather unsatisfactory performance. Mr Grey thinks that Stalin has had an unfairly bad

It is, for all that, not quite clear what Mr Grey proposes to offer in response; much of the time he reverses the usual procedure—that is, what he takes to be the usual procedure—by simply adopting Stalin's view of Trotsky. Thus

something like paranoia and claim that the paranoia and criticism were always under his control. Indeed, the impression leaves in the end is that, wanting to defend his immediately post-war foreign and much of his conduct during war, Grey does not really go to defend Stalin against the criticism levelled at him, but by saying that most Soviet crimes are treated the same brush, and that Trotsky in particular is to be treated

Paperbacks

Both wisdom and a sign

Paul Johnson on German theology

Hans Küng: no longer to be considered a Catholic theologian?

Hans Küng: His Work and His Way
By Hermann Hüring and Karl-Josef Kuschel.

Considering these two theologians, I am struck by the utter irrelevance of St Paul's remark: "The Greeks seek for wisdom and the Jews look for a sign." The essence of Christianity is not a blend of both approaches; neither is complete without the other. The temptation of theologians, working in the rationalist tradition of Augustine, Anselm and Aquinas, is to erect images of God based on reason alone. The result is a religion having read their Kant and Hegel and brought up on the splendours of German biblical research, are peculiarly prone to this error. Inside every German theologian there is a Martin Luther struggling to get out and reclaim the Christian's crown in his own heart.

Kling is Swiss, but very much in the German theological tradition. He is a clever fellow, who did a useful job in reconciling Protestant and Catholic interpretations of the Epistle to the Romans, above all the theory of justification, the most fascinating and perhaps the most

But a lot of his work is overrated, and I find his Christianity unhelpful. As an official Catholic

theologian he has been given a great (in my view excessive) amount of rope and sets up a

undignified caterwauling when no
is reined in. "I am possessed by a
boundless intellectual curiosity,"
he exults, "that can never be
satiated." Or again, of his critics
and superiors in the church: "I
can always be convinced by
reasons." Here speaks the Greek
element, so important in German
thought. The Greeks constantly
elevated men and depressed gods,
and we find the same tendency
among German theologians. The
of humanistic pride is the most
grievous of all sins and one to which
theologians are highly vulnerable.

The Vatican Pope, who believes in signs as well as wisdom, is engaged in a long-ovrdue campaign to reduce Catholic theologians to some kind of order. This is not merely his entitlement but his overriding duty. Faith is a collective phenomenon, which is expressed itself through the Church, for the prayer of the humblest peasant are just as precious in the eyes of God as the theses of the most sophisticated Tibbings don. Vulgar forms of worship and belief, springing from signs, have as much right to place in the life of the church as the views of theologians whose sense are closed to all save reason.

note from Küng's curriculum vitae that he has done only 18 months' parochial work. The best thing the Pope could do in Küng's case is to offer him the opportunity to acquire more pastoral experience. It might even improve his theology.

between the wars was in significant contrast to the abject behaviour of both the main German churches in the face of Hitler. Bonhoeffer

was a shining exception. Of his decision to return to Germany in 1939, he wrote: "Christians in Germany are faced with the fearful alternative either of willing the destruction of their Christian civilisations may survive, or of willing its victory and destroying our civilisation. I know which of the two alternatives I have chosen but I have chosen the one choice that from a position of safety. Here is the authentic voice of the Christian pastor who seeks both wisdom and a sign. For the sign is often the tragic personal witness of the man who has the desire to manifest faith and courage. Theology is not enough.

Among this week's contributors

Tessa Blackstone is Professor of Education at the London Institute of Education.

Paul Johnson is the author of *A History of Christianity and Enemies of Society*. Christopher Ridge is chairman of the

Parliamentary Education, Science
and Arts Committee.
Alan Ryan lectures in politics at
Oxford

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Energy transformations

JOHN HARRIS surveys materials concerned with the use and conservation of energy



"Why can't we have double-glazing like everyone else." Cartoon from "Energy in the Home", an Open University short course.

The message on the hearing now says "... using it wisely is everybody's business". Quite a change from recent days when the same organization encouraged us to put a tiger in our tank and others exhorted us to Think Electric or use High Speed Gas. Now "Gas is too good to waste" and we must "Use it wisely". Evidently the suppliers of energy are worried, and rightly so. What can teachers do towards helping the next generation of consumers to understand the issue?

The study of energy has been part of science courses for a long time and may indeed be elevated to the status of a unifying theme in some integrated science schemes. Energy transformations and the universal application of the conservation of energy are prominent in such courses. (Though one might ask how well the principle is understood.)

The front page of a November Daily Mail offered "Another 10p on Petrol" on the lead story, but further down an item about improvements in the design of hydrogen-fuelled cars ended: "The main advantage is that there would be no danger of hydrogen running out — it can easily be produced from water". There was no recognition of the fact that it must cost at least as much energy to obtain hydrogen from water as one can recover by burning it. The juxtaposition of the two stories is thoroughly misleading; one wonders whether deliberately so or out of ignorance.

But the conservation of energy principle, which says that energy cannot be created or destroyed, is not the same as energy conservation — how to use less fuel and make sure there is some left for our grandchildren. If children took the idea of energy conservation seriously, they might ask why we need to worry about the amount of fuel we use if all we are doing is transforming one form of energy to another.

At one level this calls for some kind of discussion of the ideas of the second law of thermodynamics. Indeed it is just this apparent paradox that introduces the treatment of the second law in Nuffield Advanced Physics. Such ideas are arguably best left for older students, although one does not have to introduce the subtle ideas of entropy and disorder; the law of entropy is used up in doing jobs and making things go seems an obvious one. Perhaps the socially vital lessons on energy conservation could precede those on the scientifically unifying principles of the conservation of energy.

Some useful material intended for children who are at the intuitive and concrete operational stages of their intellectual development — broadly 6-9 year olds — was published by the Department of Energy last autumn.

The Primary School Pack about Energy and its Uses contains a wall chart showing forms of energy (coal, oil, gas, nuclear, wind, solar); a 12-frame filmstrip showing scenes

In the life of a child, all involving energy; a set of stimulus pictures involving energy use and waste; 12 work cards which aim, among other things, to help children arrive at a working definition of energy and to think about ways of using less fuel. A 16-page teachers' handbook suggests how the items might be used, and gives further addresses and a book list. The Department's booklet "Energy: A Key Resource" is also included.

The Primary School Pack was developed in Hampshire. Teachers of science, humanities and home economics in other parts of the country are preparing material for several other age groups, including students in further education.

Teachers entering the departmental National Energy Saving Competition for Schools will now be busy completing their projects before the closing date, February 29. The competition is in two classes: Juniors (7 to 11) and Seniors (12 to 18), and the final will take place at the Science Museum, London, on May 20. Sixteen entries will remain on show for three months, and they may be joined by winners from other countries running similar competitions.

Science in Society is the title of a one-year course intended for sixth formers and further education students. It leads to an A level examination. One of the major themes is energy. Among the aspects considered are world use and world resources of fuel, "alternative" energy sources, and the possible risks involved in using various energy sources. To encourage students to think about the use of energy in their own environment there is a section on "Energy in the home" which looks at the cost and use of different fuels and discusses fuel economy and U-values. The text is illustrated with a series of heating Multi-Project Pack slides used, and this involves students in calculating the heat loss from a typical home, the cost of heating it and the cost-effectiveness of different forms of insulation.

The aims of "Home heating", one of the computer assisted learning packages in the Schools Council Computers in the Curriculum project, are similar. The student is asked to feed in the characteristics of his or her home: size, building materials and construction methods, location (altitude, exposure), required indoor temperature and so on. The package is intended for a range of ages and abilities in secondary and further education and could well supplement familiar work on heat flow. Default values are built into the computer programme so that if a user cannot specify, for example, the type of wall construction, it is assumed to be a brick-cavity wall with light plaster.

The programme will calculate how much heat is lost through the walls, how much, and the running costs for various fuels. (Keeping that data base up to date will keep some members of the staff busy.)

The Joint Matriculation Board's Energy Resources (AO level) will be examined for the first time in 1980.

The Open University short course Energy in the Home which attracted 1,700 students in its first year, is

continued on next page

Energy continued

1980. The syllabus is presented in three parts. Part 1, the Context of Energy Resources, deals with the nature of energy and energy problems; the demand for and supply of energy; and impacts of energy usage. Energy resources, including solar energy, fossil fuels, nuclear fuel, hydroelectric, geothermal and ocean power are the subject of part 2, while part 3 is devoted to energy policy. The syllabus suggests that a fair amount of detail and knowledge will be expected in all these areas, and notes that the time allocation for teaching the course should be the same as for an ordinary level syllabus. The assessment is by one three-hour written exam.

Several curriculum development groups are producing material that may help us help a future generation to "save it". "Energy 2000", "Keeping the heat in", and "Recycling" are some of the units in Nuffield's Working with Science series, which is intended for non A level sixth formers and further education students.

"Energy", published in 1979 in the Nuffield Science 13-16 series, deals more with energy transformations

being given again this year, and probably twice more. It includes a set of eight units (such as "A matter of degree", "Baths and draughts") and television programmes. A work book enables students to build up a picture of fuel use and energy flows in their own homes. Insulation is emphasized and so are the savings made possible by a change in behaviour pattern, or proper use of controls. The final unit deals with those important matters—cost and financing.

Children pick up much more than we actually consciously teach them. In the area of conservation, what teachers and other adults do may be just as important as what they say. If, because the school's heating system is not properly controlled, teachers have to open wide classroom windows to prevent children falling asleep—then many of the lessons we might try to teach, with or without the materials mentioned, may go out of the window too.

According to a recent survey of Energy Management for Schools, one school could have saved a quarter of its fuel by better management. The vital lessons of energy conservation will be much more effective if we set our own house in order.

Nuffield Advanced Physics Unit 9, Change and Chance (Longmans).

The Primary School Pack about Energy and its Uses

Information Directorate, Department of Education, Thames House South, Millbank, London SW1P 4QJ.

Science in Society

Association for Science Education, College Lane, Hatfield AL10 9AA.

Central Heating Multi Project Pack is one of several role playing exercises on energy themes developed at Robert Gordon's Institute of Technology, Schoolhill, Aberdeen.

Others are Power Station Game, Hydro-power Project, Power for Elaskay.

Home Heating

Distributed by Edward Arnold (Publishers) Ltd, Woodlands Park Avenue, Maidenhead, Berkshire SL6 5BS.

Working with Science

Published by Longman Group Ltd, Resources Unit, 9/11 The Shambles, York.

Energy

Centre for Alternative Technology, Machynlleth, Powys, Wales.

Energy

Diana Wyllie, 3 Park Road, Baker Street, London, NW1 6XD.

Save it

British Gas, 59 Bryanston Street, London W1A 2AS.

Energy in Perspective

From BP Film Library, 15 Beaconsfield Road, London NW10 2LE.

A House for the Future

By Torrance McLaughlin, Independent Television Books Ltd.

Energy in the Home

Associate Student Central Office, Open University, PO Box 76, Milton Keynes MK7 6AN.

Energy Management for Schools

From Schools Energy Project, Architectural Association Graduate School, 34-36 Bedford Square, London WC1.

Prices range from £5 to £15.

The oil companies, Central Electricity Board and the like, between them produce a large number of charts, slides, films, booklets, and so on related to energy. Here again the theme of conservation is just beginning to be noticeable. British Gas has produced a board game Save it—suitable perhaps for five to nine-year-olds, in which a player pays a penalty for wasting energy, and is rewarded for saving it. For example, if you leave the television on while no one is in the room you go back 16 places; but if you take a shower instead of a bath you get two extra turns.

British Petroleum's film Energy in Perspective has attracted considerable attention. It is well made with some powerful images and makes the point that, in historical perspective, the present age of high energy use is a unique one—and may be short-lived. Although pictures tell much of the story, the film's commentary would be difficult for younger children.

An increasing amount of education in this area takes place outside school, college or other formal educational institution. Television programmes such as David Bellamy's Botanic Man increasingly refer to the need to conserve. More specifically one might mention Granada's TV series A House for the Future, and the accompanying book.

The Open University short course Energy in the Home which attracted 1,700 students in its first year, is

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1979: 240 pages
Hardback: 0 412 14760 2: £7.25

THE BASIC IDEAS

An Introduction to Computer Programming
R FORSYTH
Richard Forsyth has written an excellent elementary introduction to computer programming by describing components of the language BASIC as he needs them to present programming techniques. It is clear, concise and easy to read. *British Book News*, 1978: 160 pages: Illustrated
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C A EDWARDS and J R LOFTY
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C H BEST and M B TAYLOR
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Specimens and micros (continued from page 27)

The proliferation of microprocessors was reflected at the ASE this year: Texas Instruments, Philips, Harris, Griffin and George, Linrose Electronics and Unilab all offered assemblies with a wide variety of functions, which enable some basic principles of systems electronics, computer programming, and science to be learnt. System details and prices are difficult to know how far it is important to compare the catalogues. All manufacturers will demonstrate their apparatus and some run free courses for teachers.

The quantity of apparatus using microprocessor technology is also much increased. Philip Harris have a Time and Speed computer for £130. It measures the time it takes for a known length of card to interrupt a beam of light, and computes the speed. It will store up to eight pairs of results on two channels and display the values on four-digit, light-emitting diodes. The two channels mean the time of separate motions, such as two colliding dynamics carts, may be analysed.

The same firm has a set of Diagnostics: solid state instruments which operate by comparing the input voltage to be measured with an internal reference voltage. The experimental rotates a calibrated dial. If the dial setting is too high a light emitting diode flashes. When the light stops flashing the value can be read to an accuracy of about

2 per cent of full scale. Three instruments with varying input resistances are available, each costs £13.75. Also from Philip Harris there is a Gas Preparation Kit for individual student use (£11.50) and a Glass Chimney Shelf (£3.10) which can be purchased together or separately.

Ideas for Education Ltd had some simple, cheap pieces of apparatus imported from India. Many of these offer good value for money. They included a Conductivity Apparatus for £1.05, Ventilation Apparatus for £4.20, and a 3.3 mV rheostat for £11.70.

Probably the best buy from Osmirod this year is the Thermo-statik, a robust thermometer which reads temperatures from -10°C to 120°C, with an accuracy within 1°C. It costs £7. They also have two very good Spring Balances, 0.1 kg and 0.100 kg, each costing £3.10. The spring is enclosed in a plastic tube. When the balance is in use a marker is pulled down the tube and left behind to give a record of the maximum reading.

E. J. Arnold have redesigned their Science Packs. These vary in price from £11.32 for the Study of Forces pack to £22.09 for Magnets and Electromagnets. Each pack contains sufficient apparatus for a simple study of a topic in physics to late junior or early secondary level. There are 14 packs in the range. E. J. Arnold also have a cheap and simple set of optics kits, dealing with basic topics such as light sources, mirrors and lenses and more complex ones such as interference, diffraction and polarization. They cost about £1 each, which is cheaper than last year. A set of 12 costs £10.

At the other end of the price range the same firm offers the excellent Millikan apparatus designed to demonstrate the particulate nature of electricity, it costs



Millikan apparatus for electron demonstration.

£123.80. The cell and integral microscope are conveniently mounted on top of the power supply and oil drops are produced by a squeeze bulb atomiser.

Texas Instruments Ltd, Mantle House, Bedford MK41 7PA
Linrose Electronics Ltd, 241-261 Manchester Road, Northolt CV9 7NP

Unilab Ltd, Clarendon Road, Blackburn, BB1 9TA.
Ideas for Education Ltd, 87a Thebridge Road, Bradford on Avon, Wiltshire BA15 1LE.

Film review

Life blood mechanisms

by John Barker

Life and Structure of Haemoglobin 16mm colour, 29 minutes. Mervyn Paramount Oxford Films and produced by the American Institute of Physics for hire from National Audio-Visual Aids Library, Paxton Place, Glosy Road, London SE27, E12 4J.

This film shows how research elucidates the structure of haemoglobin, and the mechanisms by which the molecule picks up, transports and releases oxygen up, transports and releases oxygen up, transports and releases oxygen up.

Penzance starts by discussing the difficulty of studying the structure of molecules. The film demonstrates how it was discovered that the magnetic properties of haemoglobin change when it is oxygenated. Penzance then describes the years spent in X-ray diffraction studies of analysing the data. Other workers show how techniques such as magnetic resonance were used to provide more evidence which helped gradually to establish the fully three dimensional structure of the molecule.

The malfunction of the molecule which results in sickle cell anaemia is investigated. This inherited disease distorts the red blood cells, and reduces the amount of oxygen carried around the body. The film shows how a minute change in the chemical structure of the molecule can cause major differences in its function. The interchange of a single amino acid unit can be a matter of life or death.

Finally, studies of short term changes in the molecule are described which highlight the relationship between the laws of physics and the knowledge generated by research.

This interesting film portrays the exciting interplay between physics and biology. The concepts developed and the research tools used are clearly but, fortunately, are non-physicists' notions. Discussion questions, and a short glossary are provided.

Chemistry for "O" Level

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This HANDBOOK contains all the essentials for students preparing for "O" Level examinations in chemistry. The chapters are short, and as far as possible each is confined to a single topic so that each section of the work can be easily understood. The text is amplified with descriptions of specific experiments and illustrated by simple diagrams of the type found in examination papers. Progress tests and specimen examination questions are included.

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NEW

New varieties of approach

MICHAEL CLARK reviews materials for geography

The Earth Today: Britain Transport. Building materials: homes, farming, part 1. Farming part 2. Water, double-frame film-strip and handbook, £3.20 each; optional sound cassette, £2.25 each. Visual Publications, 197 Kennington High Street, London W8 6BB.

Twenty years ago the filmstrips in a major new series on the geography of Britain would have carried titles like "East Angles" or "The Industrial North East". Their approach would have been essentially descriptive, and their presentation conventionally structured under a predictable list of sub-headings. It is against such a background that the new *Earth Today: Britain* series should be judged, since it reflects the substantial changes which geography has undergone in the last two decades.

The distinctive characteristics of place and region remain as elements in the presentation, but they are no longer the primary focus. Indeed, it is refreshing to find here that no single theme dominates the geographical perspective. Instead, we are offered a variety of approaches to systematic understanding, including historical surveys, description of present features and patterns, analysis of recent trends and case studies of the complex background to many current problems. With such an extensive menu it is difficult to imagine any geographer being unable to find something to his liking.

As always overall success relies on design and technical quality and here V.P.'s products show great professionalism. The visual element is varied and imaginative,



Illustration of a person working in a field, possibly related to the 'Earth Today' series.

with particularly creative use being made of superimposed images, and of multiple images within a single frame. The 16-20 page handbooks which support each filmstrip exceed by far the traditional notion of accompanying notes. The material is structured to meet the needs of every teacher: a few key sentences for the weak-willed, a succinct summary of definitive points for the busy, and a surprisingly comprehensive expansion of the material for those with the time and inclination to dwell on depth. Optional cassettes are available with a recorded version of the key sentences.

The variety of approach adopted makes it impossible to generalize about the contents or structure of the filmstrips. "Transport" is atypical, split equally between geography and history. This blend offers ideal material for a study of transport development, but presents a complex geographical basis. The filmstrips are complementary in several ways. Part one is concerned with crop and fruit production, but also sets the scene by examining a wide range of underlying factors including slope, soil, climate, manpower, mechanization and economics.

Part two covers livestock, but also introduces important management aspects such as research and development, breeding programmes, and animal husbandry. Unfortunately, other equally important themes like marketing, quotas and subsidies are dismissed with little development. The overall coverage is, however, both academically and technically impressive, and many teachers will be eager to see further additions to the series.

Poetry of doomed youth

by Edward Neill

Wilfred Owen—his life and war poetry
By Roy Blatchford.
Two cassettes with booklet.
Studytapes Ltd, Bradford Road, East Ardsley, Wakefield WF3 2JN. Tapes, £11.25 plus VAT. Booklet, £1.25.

These Studytapes on Owen offer in the first instance an account of his life and development, then a mixture of reading from "major" poems with critical comment and an attempt to establish occasion, context and intention. Although their overall effect is marred by some jejune and implausibly mechanical remarks on technique, they can be strongly recommended.

The main poems include *Strange Meeting*, *Insensibility*, *Apologia pro Poemate Meo*, *Antium for Doomed Youth*, *The Send-Off* and *Exposure*. They are read in an authoritative and not overly acrobatic manner. The critical apparatus might be considered a little heavy in presentation, though some think it pleasant enough.

Good points are made about both the immediate and broader context of the poems, about the deliquescent literary tradition Owen was working in, about his relation to other war poets, notably Sassoon. The contemporary social context, with its jingoist misapprehensions

is discussed, and I particularly liked the suggestion that *Apologia pro Poemate Meo* was Owen's response to that very odd figure Robert Graves, whose suggestion that he should write more optimistically is characteristically disturbing.

I also admired the way in which the material points the potentially keen and able A-leveler firmly in the direction of Harold Owen's *Journey from Obscurity*, and Jon Stallworthy's biography, though it is a pity that the accompanying booklet is slightly off-putting about Paul Fussell's *Great War and Modern Memory*.

The tragic semantic gap between British literaryism and the nature of technological warfare with which Fussell is so unenthusiastically and brilliantly concerned reminds me that the war was itself a failure of imagination. This in return reminds us that the famous preface to Owen's poems about the poetry being in the pity and him not being concerned with poetry was written in a hurry and would surely, as the tape itself convincingly suggests, have been revised. What he calls "poetry" should be qualified.

In bringing together two forms of failed imagination Owen shows himself as a great modernist poet. The death of this astonishingly talented and inspiring 25-year-old a few days before Armistice, after he had survived some of the heaviest fighting of the War, still stirs one to pity and indignation.

Give us the tools

The new "User's Handbook" from Neil Tools is described as "both a text book and a reference manual ideal for students and apprentices as well as engineers and mechanics". It contains nearly 300 pages of tables, diagrams, illustrations and technical information. Topics include, using hand tools, torque, controlled tightening of threaded fasteners, and the selection of hand hacksaw blades. Each of the eight sections has a supplement on health and safety at work. The book illustrates Neil tools and describes their use, but is also applicable to other toolmakers' products. "User's Handbook" costs 50p, a copy, including postage, from Neil Tools Ltd., Department HWM, Napier Street, Sheffield S11 8BB.

Bridge disaster

The hundredth anniversary of the Tay Bridge Disaster is marked by an exhibition at the Central Museum, Dundee, which runs until March 22, 1980. The items on show trace the story of the bridge from its design to its collapse, when it took with it a train and the lives of 75 passengers and crew. Among the supporting exhibits are slides, postcards, badges and booklets, and the Museum can offer illustrated talks, guided visits and loan kits to schools. Further information from Christopher Duggan, Keeper of Exhibition Services, Dundee Museums and Art Galleries, Albert Square, Dundee, DD1 1DA.

resources

Tourists and cowbells

by R. H. W. Cooper

Swiss Alpine Valleys in Transition by Peter and Gina Corrigan £1.50 plus V.A.T.
Transport and Development: a Caribbean Case Study by David Wright
Hydroelectric Power in North-East America by Sheila Jones
Longman Common Ground, Longman House, Burnt Mill, Harlow, Essex CM20 2EF. £3.55 plus V.A.T.

A few years ago a Swiss Alpine resort received complaints from visitors that the traditional Alpine cows, complete with bells, were no longer part of the ambience. The locals, who had deserted dairying for the more lucrative tourism, under pressure from the *Syndicat d'Initiative*, remedied the matter by wandering freely over the alpine pastures although none had time to spare to see that the cows gave milk.

The challenge and modification to the traditional way of life is the theme of the filmstrip *Swiss Alpine Valleys in Transition*. The area under study is the district of Entremont in Canton Valais, a French-speaking part of southern Switzerland. The area is called locally the *Pays de Trois Dammes* and previously the three valleys were isolated, the inhabitants simply cultivating the small arable fields around each village. With the coming of modern communications (the Val d'Entremont now takes the Swiss railway traffic via the St. Bernard Pass and Tunnel and a new auto-route opened to Hamburg in 1977) the way of life has been radically altered.

The strip opens with the kind of familiar familiar scenes of students of ski-brochures, showing the disposition of the main villages, the *mayen* (middle pastures) and the *alpage* (high summer pastures). In the next few frames we see settlements at successive higher levels until we reach the *Alpage Col du Tron* where the work of the summer dairy hands is aided by mechanization. At higher levels no such mechanization is available. The workers are fewer, and the milk is turned by traditional methods into cheeses. A frame of this process is, predictably, contrasted with that of the old-fashioned dairy at *Osterwald* (as discussed) in particular the consolidation of land parcels previously divided by inheritance laws into areas too small to work. Even so the size of the consolidated parcels proved costly and difficult for machinery to work.

Further difficulties include the effects of floods on bridges and, paradoxically, lack of rainwater, the latter remedied by an updating of a complex medieval system, the *Risse du Levrin*, a 24-kilometre, high-level canal. In many of the frames one can see the infiltration of tourism. Many chalets in the *mayen* have been let as holiday homes and new chalets equipped with all modern conveniences mingle with the old wooden barns and stables. On the beams of these stables is carved "Pays de trois Dammes", a reminder of the harsh environment. Modern developments in the region represent a stunning achievement. As one sits on the terrace of a high cable station there is a sensation of a belittlement of the environment. It is a feeling shared by the local farmers who, shrewdly, obstinately, to older methods, local customs and festivals.

The accompanying handbook is informative and well written, the photographs, in most cases, acceptable. The strip would be most suitable for CSE or O level work. The other slide sets are complementary to the new and vastly improved "Longman Revised Colour Geographies" series. The book *West Indies* by David Wright is one of the more outstanding in this series and his folio on *Transport and Development: A Caribbean Case Study* is a most useful accessory. The slides show how the disposition of the smaller islands poses communication problems and depicts some of the solutions, old and new. The earliest is provided by building schooners in the poorest and smallest islands (road photographs, a shot of a bus at St. Lucia is accompanied by an examination of the various roles it plays in the course of a week).

The set and the text book both deal with the effect of tourism on a traditional society and could lead to a profitable discussion on the dissatisfaction many West Indians now feel about tourism. The folio *Hydroelectric Power in North-East America* by Sheila Jones adds little to the text book *America to the Great Lakes* by the same author. The frames largely emanate from official sources and have that deadening quality associated with all large public works (especially IEP). Photographs of switchboards and pylons are undisturbably and drearily too small to work. Even so the size of the consolidated parcels have been taken anywhere.



Leipland solid-tired three-tonner (1907). One of the illustrations from "Road Transport in Great Britain", a free wallchart from the National Freight Corporation. The chart includes sections on transport, through the ages, starting with the pack-horse, and UK transport statistics showing the most popular methods of freight transport and the type and quantity of goods carried by road, rail and pipeline. The chart section is a segmented circle, each section of which contains profiles of particular haulage companies together with the details of the kinds of load in which they specialise. These include clothing and textiles, solid and liquid waste, frozen foods, car transport and furniture removal. Mention is also made of a number of ancillary companies providing repair and recovery services to keep the operators' vehicles on the road, and computer programmes designed to improve systems of distribution. The chart is available from the National Freight Corporation, Argosy House, 215 Great Portland Street, London W1N 6BD.

A new bouyancy at the helm

CHRISTOPHER GRIFFIN-BEALE profiles John Bell, secretary of the Schools Broadcasting Council

A rear-admiral might seem an incongruous figure to take the helm of the Schools Broadcasting Council, the body established and entirely financed by the BBC yet independent of it, to represent educational interests to the Corporation. But John Bell, the SBC's new secretary, would be nobody's stereotype of a naval commander.

Until he joined the SBC a few months back to prepare for his new posting he had spent his entire career in naval education, starting as an instructor lieutenant in Greenwich alongside David Attenborough and another future senior BBC executive, Kenneth Lamb. He rose to become director of naval education which embraces a surprisingly diverse range of activities, from schools for the children of naval personnel to postgraduate courses, overlapping with training and—by some historical quirk—providing responsibility for the Navy's meteorologists and oceanographers. His commitment to education could be measured in another way: he has amassed three degrees before and during his naval career.

Bell identifies many similarities between the BBC and the Navy as organizations, down to an intriguing parallel between young naval captains at sea and BBC producers, in the extent and limits of their autonomy.

To expect any great change in SBC or BBC educational policy from the time of Bell's predecessor, John Robinson, would be to misread the influence of individuals. But Bell's is a key job, linking between the BBC and the constituent parts of this rather strange body, which Reith established in 1929 as a buffer between the Corporation and the edu-

cational world, preserving the BBC's autonomy, yet assuring the educational world that the BBC's schools output reflected educational principles and classroom need.

Although proposals come from BBC departments, programmes are produced "at the request of the school broadcasting Council for the UK" and can only be made with its approval. Later there came a further (now Continuing) Education Advisory Council, of which Bell is also secretary. Its influence is purely advisory and it lacks the SBC's power of veto.

The SBC for the UK meets formally only twice a year, so most discussion of proposals is undertaken by numerous programme sub-committees—"the powerhouse of the organization" according to Bell. However, they all draw on the fieldwork of the education officers, technically SBC staff, who travel the country's classrooms to promote and observe the use of BBC programmes.

Although some observers have expressed fears about the stability of the BBC's educational craft in the choppy economic waters predicted for the 1980s, Bell is robustly and reassuringly confident about the BBC's continuing commitment to formal educational provision.

If the licence fee again fails to keep pace with inflation the BBC regards the latest, apparently substantial, increase as barely sufficient, might not this focus attention on the anomaly that all this schools material, and the SBC itself, which might properly be a charge on local or national education budget, is in fact financed by BBC licence payers? Before the war, when the Corporation was economically buoyant, Reith de-

clined any subventions from education, lest they compromise the BBC's independence. However, Bell points out that the pupils watching at school are virtually all children of licence payers.

Other fears have been aroused by public noise about the amount of the school programme occupied by schools programmes (and by the OU, though that is outside the SBC's responsibility)—in particular schools' domination of Radio 4 VHF in daytime. The "ideal solution", Bell recognizes, is an extra VHF channel, and that may be more practicable now the recent World Administrative Radio Conference has allocated Europe something approaching twice the existing number of VHF frequencies, though they won't be effective until 1982-3.

The other solution, publicly floated, is to transmit schools radio in the small hours, for example, by schools on tape recorders linked to automatic time switches. There has been one technical test, but Bell insists there would be no decision without an exhaustive trial. "We've got to see if it's practicable from the human point of view," he says. He also appreciates the concern of producers who would effectively lose the sense that their programmes are publicly broadcast and accessible to a valued audience of schoolteachers.

However, from his trine around schools this autumn, Bell is convinced that the most important issue for the future of schools broadcasting is the quality of the skill with which individual teachers use programmes in the classroom. And he adds his voice to that of BBC colleagues and SBC producers in calling for more in and pre-service training for teachers in the use of broadcasts.

Woman in the moon

by Ian Patterson

Queen Elizabeth—I. Letters, speeches, poems Spoken with linking narration, by Maria Perry Embryo Cassettes, 268 Bath Street, Glasgow G2 4JR

The myths of Queen Elizabeth I—the Virgin Queen, Gloriana, the enigmatic woman in the moon—have never lost their fascination. And, being myths, they continually offer themselves for our comfort, emblems of completeness in a fragmentary world, changing shape but staying eternally the same. The history of Queen Elizabeth I leads into an untidy world of uncertainties and obscurities, inextricably bound up with the myths that have accumulated round her. When myths get accepted as history, all sorts of confusion about the present begin.

The remaining 45 years of actual power are softened by being seen through the rival claims of Elizabeth's love—from Dudley, the succession of political suitors up to Alençon, and the state of England itself. Gradually the mythic figure of national sublimation takes shape. No hint is given that the then old woman was anything less than perfect. No hint of the personal emergencies, or indeed anything of politics.

The only political relationship imaginable in this world is one of subjection through love, purified by the queen's personal sacrifices. The historical mention of Essex is typical: "the new favourite, the Earl of Essex, was a silky boy who finally went too far and was executed." Tell that to the examiner.

Primarily this tape is a re-interpretation of Glenda Jackson's extracts are read in the best dramatic tones, capable of loading the most trivial comment with emotional portent. It is a mistake, too, to try for verisimilitude in the voice as it changes from that of a four-year-old to that of the "golden voice" she addressed as a daughter from the Commons in 1601, which sounds unacceptably like Barbara Castle at 90.

All of which is a pity. A tape of Elizabeth's letters and speeches, with perhaps a more interesting selection from her poems and tracts, would certainly be very useful for A level history and English—but it would need to be either a compilation or have some serious historical narrative. The present one is another instalment of the old myth—unhistorical and uncritical, an emotional plea for national unity in the tradition of *Our Island Story*.

It is a good idea. The Elizabethan period is an important one in literature as well as history, and the poetic culture that developed in and around the court in the past two decades of the century has left us with many and varied images of her.

From *The Faerie Queene* and Raleigh's *Ode to Cynthia* to the acrostics of John Davies of Hereford, the cult of the queen gives shape to the ethical and political ideals of a succession of writers. Yet whatever form the cult of Elizabeth took, it was far removed from nineteenth-century style hero worship. Her function was as much symbolic as real, and

beneath each of her mythologized stiles extend manifestations of subtle complexity. The literary symbolism and iconography of Elizabeth I, besides, only one pointer among many to the historical culture in which she was such a potent figure. Whatever subject students are doing, they are entitled to some historical explanation of this extraordinary woman.

Such historical material is lamentably absent from this compilation. Elizabeth is the heroine and a portrait of her is drawn passing from childhood misfortune to magnanimous old age in relentlessly novelistic fashion. The "emotional deprivation" of her childhood, her education, her chrysalis-like adolescence and imprisonment are the emotional landmarks for the first half of the tape, which takes us up to the coronation.

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This cassette is designed to give A level students an idea of Elizabeth I through extracts from her letters, speeches and poems. These are set in a background of narration of the events in her life which sets the scene for the extracts and fills us in on the story. (Story, not history.)

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Unobtrusive interrogation

by Marion Glastonbury

His Entendu! Project *réalisé par Sue Cowling et Helen Douglas* Cassette and booklet Mary Glasgow Publications Ltd, 140 Kensington Church Street, London W8 4BN

This series of 10 interviews, each lasting for two to three minutes, is intended for pupils aged between 14 and 17 who have been learning French for at least three years. Ten teenagers, four boys and six girls, living in various parts of France, are in turn about their families, education, leisure activities, sports and holidays, and their tastes in clothes and entertainment.

Although each conversation has a specific topic and the language is consistently simple, the effect is wholly natural and unforced. The interviewees respond to the interviewer's questions with a relaxed and unobtrusive manner eliciting clear and spontaneous replies.

The cassette provides transcripts of each interview followed by pupil worksheets. These contain three exercises: a dozen direct questions that have been said, a summary of the dialogue with blanks to be

filled in from selected vocabulary, and a section, *Et Vous?*, which invites the pupil to supply relevant information on his own situation and opinions.

These suggestions are thoughtful and well constructed. They promote comprehension, illustrate the diversity of the questions, and help to formulate an appropriate answer. Furthermore, they succeed in stimulating youthful interest without getting into the tedious, unbroken flow of the ephemera of a multi-tape cassette *que les deux sexes sont connus en France?*

Deeper discussion of life-styles might also arise from the attitudes and assumptions implicit in these interview questions. Why does the interviewer ask the girls, but never the boys, about their contribution to domestic chores? What is the view of these youngsters, makes parents *idéaux* or *trop sévères*? And how does these impressions of family life differ from what we are accustomed to?

His Entendu! is an obviously good idea, excellently carried out. The practice it affords should prove a godsend to all those well-wishers from examiners to foreign language teachers who are concerned with that has been said, a summary of the dialogue with blanks to be

media

OU

You the technocrat

FRANK ANSTIS reviews "Living with Technology"

The Listener for December 6 contained an article entitled "The other Green Revolution" in which John Naughton commented on the fact that many members of Parliament consider themselves unable to make reliable judgments in the field of technology because of their ignorance of its processes. Most members of the general public must feel similarly barred from participating in technical debates which may have a profound effect on our future well-being.

Mr Naughton was describing one of the Open University's new foundation courses: *Living with Technology*. More particularly, he was declaring that there is no real need for any of us to take a pessimistic view of our ability to make value judgments in technological matters.

One of the completed units, broadcast in December to give a foretaste of the series included a programme called "Facts are not enough" which distinguishes between value judgments and the facts from which these judgments are derived. It is presented by John Naughton who begins by defining a fact as an assertion about the world. This definition, too general for many philosophers of science, is sufficiently precise for the purpose of a programme in which Dr Herbert Inhaber's widely publicized report on the relative risks involved in different methods of energy production is used as a convenient example of a seemingly factual report. The report is shown to be richly encrusted with value judgments—each expert commentator providing his own criterion of the facts that are presented. What is true of the Inhaber report could be true of many others, and non-specialists are frequently left with the impression that they can have no part in the ensuing debates.

Living with Technology proclaims the optimistic message that we can all learn how to make value judgments from a technical field in order to discover how they have been derived and to identify any underlying assumptions. Students who select this option are committed to four or five weeks of study with each of seven units. The units—"Homes", "Communi-

cations", "Energy", "Material Resources", "Food" and "Health"—together with a unit devoted to the study of two set books, will attempt to provide the essential skills for a technological approach to problem solving—that is, "the ability to think in terms of systems, design and modelling, to handle numbers, to quantify issues, to communicate ideas via diagrams and the written word". For this the student need start with no mathematical skill beyond the four basic arithmetic functions. All else, including the development of word skills, is provided by back-up material.

The team's aims are ambitious, but, judged by the evidence of the broadcast material now available and some of the source literature, there are prospects of making inroads into present ignorance and lack of confidence. If a lot of students complete this course successfully, society will be better able to respond to the growth of technological change in a rational and democratic manner. It would be especially encouraging if this course, beyond all others, is completed by many more students than those intending to go on for a degree.

Living with Technology is firmly grounded in existing conflicts. The impact of the micro-processor, the provision of additional energy sources, new farming techniques, the fight against cancer, are all matters of urgent public concern. In Europe the Green Revolution has become a politically significant phenomenon, and may soon show increasing militancy in its methods.

Students on the course, and others who may casually tune to one of the broadcasts, should be alerted by the student notes of the introductory music to an awareness that this study is of more than academic interest. In spite of such punning titles as "Home Sweet Home" and "Home on the Range" the programmes could materially affect our lives. It is comforting to know that this impressive course is devised and presented by a team whose members seem well aware of the power of the media they are using and encouragingly open-minded in their own approach to facts.

Thames

Notes from a wooden frame

by Andrew Pegg

Music Round. Fortnightly from January 22 11.05-11.25. Some areas have additional transmissions on Fridays at 10.48.

Music Round, Thames Television's "resource for specialist and non-specialist music teachers with mixed ability classes" has had to abandon two of the seven new programmes planned before the dispute, and progress on the others has been retarded.

The spring term sees new editions of programmes on the Piano, Instrument Making and the Recorder. Nominally new, at any rate: the piano programme deals almost exclusively with its construction, presumably to avoid infringing on material dealt with in last term's broadcast on the keyboard. It cannot help but have something in common with the programme on making programmes, which claims to follow the changing meanings of the word, consequently dealing with singing with the instrument itself and with the process of scoring sounds. All very well, except that "What is Music?" also dealt with the recording process and Electric Phoenix in programme 14 will examine singing and the voice.

All this suggests a lack of direction. This is most evident in the piano programme, which has a great deal in common with the old cinema

Look at Life series—mentally titillating but rarely intellectually demanding. There are poetic shots of a bald piano tuner, no explanation of what he is doing, John Tilbury playing Chopin (with a page turning operative obviously much affected by the seriousness of his task), and close-ups of the action, the strings, the frame, and the keys.

The sustaining pedal is erroneously called the "loud pedal". An eighteenth century wooden-framed instrument sounds dreadful at the business end of a television receiver—no delicate and exquisite as suggested. We are told impressively how many parts are in a piano, but little or nothing about what any of them do. And so on.

What a programme such as this needs if it is to make anything more than a soporific impact on teachers, pupils or indeed a general audience, is a coherent script and a logical development in the editing. Of the other new programmes, *Making Instruments*, the Guitar, the Recorder, and Electronic Phoenix (not yet all completed), the two latter may promise meatier material if composer Douglas Young and the members of Electric Phoenix are allowed to speak in their fields. More important, they could bring some immediacy to a series not so far distinguished by its willingness to make contact with its audience.

BBC

Degrees of choice

by Nick Thomas

Higher Education... BBC 1, January 14 and 15; 21 and 22; 28 and 29. 11.40 on the first day, 12.05 on the second day.

These three programmes provide an overview of higher education which is a badly-needed supplement to the work of teachers-advisers. Generally speaking, teachers have neither the time, the information, nor the experience to give this kind of context to pupils' decisions about whether or not to continue studying, and if so, what, where and how. The unit will be broadcast at a point in the year when upper-sixth farmers will have completed their UCCA forms, but can still make changes, and the lower-sixth have half a year to plan their future. The unit will be repeated next September, just before the pupils make their decisions. Every pupil thinking about higher education should have the opportunity to see these programmes.

"Choices" looks at ways of deciding what to do—deciding whether to go straight to work and obtaining qualifications through evening or part-time courses. Sandwich courses are an increasingly important area of further education, according to the educationalists who were interviewed. The choices are set in the context of the 13 to 14 per cent drop-out rate from universities and polytechnics. It is clear that a lot of people commit themselves to courses which turn out to be not what they want or need. Stress is laid on the distinction between interest and career, and on the fact that it is quite reasonable to opt for a subject which fascinates you, so long as you realize that there is little chance of a job in that particular field. The key word here is: know what you are doing.

Every effort should be made to create time for space for sixth-formers to watch these programmes. They are being expected to take one of the big decisions of their lives, on the basis of very little information, and they need to know how to choose intelligently as those programmes continually do, is very much to be welcomed.

Film

Young blood on the tracks

by William Dale

Robbie. Thirteen minutes. Colour. The Transport, Travel and Electricity Film Library, Melbury House, Melbury Terrace, London NW1 6LP

Nine children have been killed this year, and many more injured, playing on railway lines. Robbie is part of British Rail's campaign to stop this.

Two years ago they produced *The Finishing Line*, a fantasy film with a shock ending that created a good deal of controversy—a third of the country's education authorities refused to allow it to be shown in their schools. An adult barrier to the film was its subject: the death of a child. But *Robbie* is a very different approach. It is a straightforward, realistic dramatization of an accident caused by trying to cross the railway-line in the wrong place.

There are three different versions of the film, identical except for the accident scene, which is varied to fit different ideal rail conditions: third rail, electrification, overhead power lines, and diesel trains. In each case the central character, an eight-year-old boy, is persuaded against his better judgment to take a short cut home through a hole in a railway fence, on his way from a football match in which he scored the winning goal. He is crippled for life—and will never play football again.

The horror of the accident is hinted rather than shown directly; the emphasis is on the consequences of his momentary mistake, especially the suffering of his mother. The theory is that eight to 11-year-olds, the film's prime target, will not be so strongly affected by the idea of causing their mother's pain. It became clear at the press showing that British Rail, to its representatives' chagrin, has not succeeded in producing an unobtrusive film that would stop children from playing on the tracks.

It is a pity that in producing a film which warns against climbing through holes, British Rail was taking to prevent such holes existing; and that research strongly suggests that publicizing the danger of an exploit actually attracts risk-takers. One of the main occasions for railway accidents is the dare game *Chicken*.

The first point was easy enough to clear up: British Rail spends millions of pounds a year on repairing its fences, they said, but they clearly cannot mount permanent guard on every yard of track. The second point is more alarming. Obviously everyone's impulse, in trying to warn children against danger, is to emphasize that it is dangerous. If this is counter-productive, what an earth can we do? However, the experts consulted by British Rail felt that on balance Robbie takes the right approach, and we can only hope that they, and our instincts, are right.

Assuming that this is true, Robbie is well-made film with high emotional impact, and it may well save lives. Narrated by Peter Purves of *Blue Peter*, a recognizable and popular figure, it is punchy without being sensational; its sense of how children act and talk is convincing, and time is taken to set the scene before the accident itself. Robbie seems a responsible and effective way to approach a very real problem.

British Rail see the main use of the film as being for school showings, accompanying a talk by an experienced driver—one of the people who has to cope with the effects of railway trespass, which may have led to their killing someone. But the film can also stand on its own; and its final section discusses and illustrates the dangers of railways in general—the way in which the noise of one train can mask another's, the slow stopping ability compared with cars; and so on.

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Briefings

Radio and tv CE and OU

Skills for Survival (Sunday, 15.30 VHF4) Aimed at teachers concerned with remedial education and the social encouragement of unemployed young people.

On The Rocks (Thursday, 11.25 BBC1) A geology series using basic terminology to explain how the countryside is formed and how geologists work.

Athlete (Friday, 9.25 BBC1) Resource material for the games teacher. Different athletic skills are illustrated and practical instruction given.

For schools

Traffic Education: 50cc (Monday, 9.35 VHF4)

Five programmes for 15 to 16 year olds who are considering riding mopeds. "Street sense" is a radio-vision programme which suggests that people must adapt to a motorized environment.

Finding Out (Monday, 9.47, Wednesday, 11.16 ITV)

Postponed from last autumn, a unit on life in France, Italy and Germany.

Communicate! (Monday, 9.52, Wednesday, 11.40 BBC1) Aimed at pupils aged between 13 and 16 who need encouragement to develop spoken and written English. *Radio Thin King* (Monday, 9.55 VHF 4)

For seven to nine year olds with reading difficulties. Each programme contains a simple letter association exercise and activities for the more advanced.

Starting Out (Monday, 10.28 ITV) Postponed from last term, this series is concerned with relationships, moral values and some of the areas of concern felt by 14 to 16 year olds.



Cliff railway. *Maths in a Box* (Tuesday, 9.58, Friday, 10.15 BBC1)

A maths miscellany series for 6 to 7 year olds aims to assist and augment classroom work in practical mathematics.

Advanced Studies: English (Wednesday, 9.30 VHF4) Six conversations about *Measure for Measure* between Dr John Wilders, adviser to the BBC's Shakespeare project and Susan Hill, novelist and critic.

Home Economics (Wednesday, 10.30 BBC1) A new unit designed to explore links between science and home economics.

The French Programme (Thursday, 10.26 ITV)

Five "Brick-Bric" programmes bring a new dimension to third year French.

Botanic Man (Friday, 9.30 ITV) David Bellamy traces the evolution of life on earth.

Maize and giant sculptures

by Claudette Everly

Seeds Part 1: Formation, 20 frames. Part 2: Structure, 26 frames. Part 3: Germination, 27 frames. Colour film strips with notes, £5 each.

Produced and distributed by Marian Ray, 36 Willetts Avenue, Surbiton, KT5 8BD.

The sexual reproduction of flowers is on many biology syllabuses and this series of three film strips provides comprehensive coverage of the topic.

All the frames are in colour, and feature drawings and diagrams of high quality. It is unfortunate that

a list of common and proper names, together with the number of the frame on which the specimens are featured. It is a pity that some of the scientific names, like those for maize and Shepherd's Purse, are incorrectly spelled.

Part 1 shows the relationship between the reproductive organs of several flowers and their seeds and fruits. There are details of the events occurring in the ovule up to the time of formation of the mature, fertile seed. The order of the events is strange, for the sequence on embryo sac development is interrupted by a frame on ovule structure. The specimens illustrated are standard ones, namely pollen formation in the lily anther and embryo development in the Shepherd's Purse.

The illustrations in Part 2 cover variation on seed shape, size, colour and food reserves and deals with specimens and details such as the development of the air in nutmegs, that are frequently neglected. The author must believe that biologists are "insects" who fail to appreciate the beauty of seed coats, for frame 10 under 11 shows seeds as giant sculptures being viewed by miniature adults; a frame that is both silly and out of context.

The third strip covers the structural and physiological changes that occur during germination. There are many useful graphs (for example the effect of methods of seed storage on percentage germination, the rate of germinating seeds and the dry weight changes in parts of a germinating seed) and tables, such as the effect of sowing date on crop yields of navy bean and cotton.

The order of frames in the strips is at times illogical, and as teachers may want to use two frames from different strips to illustrate a point, the greatest value and flexibility of use will be gained if the strips are cut up and mounted as slides.



Basalt columns. One of the illustrations from *Pictorial Chats Educational Trust*. The accompanying text explains that "the Giant's Causeway in Ireland is a fissure flow which cracked into hexagonal columns on cooling. If basalt erupts under the sea it cools rapidly into pillow-like shapes". The chart depicts several kinds of volcanic activity including Vulcanian, with ash cloud and lava bombs, and undersea, with the lava forming an island. Copies available from Pictorial Chats Educational Trust, 27 Kirchen Road, West Belling, London W13 0UD. £2.50.



no photographs of actual specimens are included, as many of the types illustrated are unusual and unlikely to be in school laboratories even in preserved form.

The teacher's notes are accurate and give supplementary information. At the end of each set of notes is

سكروان الراس

Impracticable scheme

R. T. Cooper

Elizabeth Adams, a former inspector of schools for Surrey, in *Planning for Real* (November 23), claims that the answer to boredom and tension between students and teachers, truancy and the illiteracy of some school leavers can be found in individual programmes for 14 to 16-year-olds.

Apart from the obvious impracticability of the scheme she puts forward, there are assumptions which need to be examined carefully. One is that the tensions which exist between some pupils and some teachers at upper secondary school level can be eliminated by stratagems of this sort.

As every head knows, some teachers would produce uproar in a classroom full of Trappist monks. It is a common fallacy to suppose that, in a coercive situation brought about by compulsory attendance at school, there can ever be an elimination of tensions between some teachers and some pupils. It is to do with human relationships, and not with curriculum.

Making the curriculum as relevant to the needs of pupils as possible, engaging pupils in decision-making at appropriate stages of their school lives, involving parents, governors and other interested parties in curriculum decisions—all these activities have their own justifications.

network

Roots is a quarterly publication which concentrates on the theme of cultural diversity. Its aim is to "promote informed discussion, provide information and publicize good practice among those in teaching and the caring professions". The third issue, just published, has an extended article on multicultural education, and a brief account of the Shepherd's Bush Supplementary School, the oldest one in London. Copies (40p inc. postage) from 42 Ikon Road, Enfield, Middlesex. Subscription for 4 issues £1.50; cheques to be made payable to *Roots*.

The Association for the Study of the Curriculum, formed a couple of years ago by teachers, academics and administrators who had been holding annual standing conferences on the curriculum, is developing regional groups. The next planned area will cover the three counties of Bedford, Buckingham, Cambridge, Oxford and Northampton. An inaugural one-day conference is to be held at the Open University on Saturday, February 9, 1980. The theme is "Evaluation and Accountability, implications for schools, colleges and I.E.S.s.". John Graham, Head of the APU and Tim Brighouse, CEO, Oxfordshire, are the main speakers. A number of specialist seminar groups are also planned. The cost is £3 (including lunch). Fuller details from Bob Moon, deputy head, Stantonbury Campus, Milton Keynes, or Bob McCormick, Lecturer in Educational Studies, The Open University, Milton Keynes, (see please). Closing date for applications January 18.

The winter issue of *Lib Ed* contains the second part of Ray Heeningsma's article on Paulo Freire; a piece by Nigel Wright on the need for a campaign to get state funding for parents who wish to set up their own school; and a feature by Roger Holdsworth on an unusual neighbourhood school in Melbourne. There is also an A-Z of regional and national organizations and newsletters of use to community groups. Copies (30p plus 10p postage) from 6 Beconsfield

The best teachers can hope to do is to develop an understanding of the young people with whom they deal, and to learn the skills of managing young people in ways that allow them to grow towards autonomy in the given conditions of school life.

Much excellent work on this has been done by such people as Douglas Hamblin and others in the field of counselling, and increasing numbers of teachers are becoming more professional in their dealings with pupils as a result. About 30 staff in my own school are engaged in group developmental work under the guidance of Leslie Button, of University College, Swansea.

This entails practical work with groups of children on a regular timetable over a period of many months. It seeks to promote self-knowledge, self-confidence, trust and respect for persons in an informed and skilful way, by teachers who are aware of the powerful and often destructive social pressures of peer groups on the behaviour of individuals.

People like Hamblin and Button have important things to say to teachers who are dealing with the problems of the here and now. They are helping young people to fulfil themselves in the realities of life as it exists for them in 1980. It is this kind of work that can make a direct contribution to the improvement of relationships between pupils and teachers, and the apparently endless search for changes in curriculum which has gone on for the last 20 years.

R. T. Cooper is head of Llantarnam School, Cwmbran, Gwent.

Cross country for juniors

Peter Dyer

Although the introduction of the AAA Five Star Award 10 years ago widened the scope of junior school children's participation in athletics, long distance running still tends to be regarded as a secondary school preserve. But there are no convincing reasons for older junior school pupils not being allowed to run up to 2 km, as long as the activity is a voluntary one, and providing that the children are reasonably fit.

A number of highly respected coaches have supported this notion, claiming that the longer sprints are, potentially, more dangerous because competitors, being never too far from the finish, can run themselves to exhaustion. Beyond 400 metres young children simply cannot sustain running at a fast pace.

If they set off too fast they



Many coaches now support the idea that cross-country running is suitable for older primary school children.

simply slow down or even walk. Junior pupils prefer to avoid the constant 440-yard circuit of track races. Besides, not many primary schools are fortunate enough to possess a running track.

Four years ago I introduced cross country running into our sports programme. A flagged course was set out on the sports field, and later extended to the adjoining park. At first the length of the course was limited to 1 km, but eventually, as the children became fitter and more involved, it was increased to 2 km.

Both boys and girls in their fourth year took part, and for added interest several hurdles in the form of small gate-like constructions, hurdles and climbing frames were placed around the course. Such barriers have no part in modern adult cross country running, but for young children they provide an 'it's a knockout atmosphere which adds to the fun and alleviates monotony.

At first children ran in pairs. Shortly afterwards the interest was great enough to organize mixed ability teams of eight. Several other

schools in the area also adopted the sport, and eventually a series of inter-school meetings were organized during the autumn and winter terms, for both boys and girls.

Cross-country running is essentially a team game, although it allows the individual plenty of scope. It provides many children who might otherwise be fairly miserable on football and other pitches with alternative skills and activities.

As in other junior games activities, girls and boys events have to be run separately. Being stronger, boys are usually capable of covering up to a third in distance more than girls, so some adjustments have to be made in route planning.

There is some scope for arranging team tactics when running against more than one other school. But these should be kept to a minimum, usually involving two or three of the strongest runners generally speaking, after a little experience, children decide what pace and position in the pack suits their individual abilities.

Peter Dyer teaches at Millbrook Junior School, Westvale, Kirk.

Access to the tests

Michael Young

A recent question from my nine-year-old daughter about verbal reasoning tests brought home to me the anxiety I felt, not only at the choice of school which will be available to her in just under a year's time, but also the fact that such a choice will be decided by the outcome of a test on which I could offer her no help or guidance.

I telephoned the ILEA to see if there was any parental access to past verbal reasoning tests, and was told to parents it is ILEA policy. I was told, but, if you want to press it further, you should contact an other department.

Two departments later I stumbled upon a helpful lady, who told me that the tests were not shown to parents because of the obvious risk of such information being misused. After all, she said, the papers could fall into the hands of the press and be used for all sorts of purposes.

When I explained that all I wanted to do was see exactly what form the test took, much as an older student feels the need to look at past GCSE papers, I met with the immediate response that of course the VRT is not an exam in the normal sense of the word.

The tests being taken at the moment are, she said, totally anonymous. The results are for the central computer, which analyses overall area results and feeds them back to individual head teachers, so

they can compare them against their own assessments.

But, she said, really our policy is that the test papers should not leave the individual school's premises, so that if parents just wanted to see a copy of a paper, the ILEA would have no objection if the head felt able to comply with the request.

But, I asked, what if the head refused to show me one? Ah, she said, you could tell him that we at the department have no objection, but if he still refuses, you had better come back to me.

After school one evening I discussed the test with my daughter's teacher. Yes, she said, I've already started the children on work for this wretched verbal reasoning test, which they have to take so early in the fourth year.

It's so important. They have just got to adopt the right exam technique. I'm not prepared to go into the details of it, it's enough of an issue in the staff room, but the exam is a fact of life, a fact of this system, and while it exists there is no point in closing one's eyes to it.

Anyway, she added, the assessment is taken from the best of three papers, so there is a safety net for sickness, or for children who just have an off day.

The headmaster was welcoming, effusive even, when I talked to him. They used to be termed 'intelligence tests', he said, and basically what is needed is a good reading skill, coupled with the ability to comprehend the problem, answer it and quickly move on.

But, he added, assessment is not based on these tests alone. There is his own cumulative assessment of the children, plus their actual class teacher's report. Often, he said, did not tally with the ILEA.

But no, he could not show me a copy of the test—a position I held briefly before thrusting a copy of the papers into my hands. "Just to let you an idea of what it is like."

It was an innocuous document, comprising questions with multiple choice answers. They do get more difficult further into the test, he added.

So it was not a fruitless task I had embarked on. All that was needed to see a test paper was a certain perseverance in the face of a first and second refusal.

However, my reasons for wanting to see the paper were not entirely passive. I believed, and still do, that positive encouragement and help is beneficial to a child working towards a specific and identifiable goal.

No doubt I will be accused of wanting to cram my child. Even the headmaster drew attention to the unnecessary anxieties which parents can arouse in children.

Yet living in a London borough where 22 per cent of the 11-year-olds are changing schools in 1978 was denied their first choice, it is to know exactly by what when to encourage their children. Should the child aim for a specific position within a certain band, for example, or just trust to luck?

Educational engineering, if you like, but surely parents have some part to play in the yearly juggling at County Hall. Where, exactly, does one strike the balance between parental participation and passive watching from the sidelines?

What I have learned, however, is that I will at least be able to give my daughter some reassurance.

Michael Young is a parent living in south London.

endpage

Adults fill the empty desks

More than half of New Zealand's secondary schools

have adults learning alongside children. Sylvia Goodman looks at

the advantages of this development

The idea of adults going back to school is not a new one. But it is probably only in New Zealand that it is being put into effect on a large scale. Although in some cases there may be only half a dozen adult students, other schools now have adults accounting for more than a quarter of their annual intake.

It is no secret that falling school rolls were a major reason for the development of the adult intake in day schools. No doubt initially it seemed a cheap and easy method of keeping teachers occupied. But, as so often happens with the education of adults, those involved have become increasingly concerned, and are now deeply committed to the project for its own sake and for its wider implications.

The principal of Aorere College (most secondary schools in New Zealand are called colleges) regards it as "merely a surface indication... of the view that education is not something which starts at the age of five and comes to an abrupt halt at the age of 15 or 16, but that it consists of experiences that continue on right through life".

He sees adults in day school as one expression of the total need for community education in the part of Auckland served by the college. This seems to be generally true of schools operating the system on any scale, although the emphasis varies: in one school the adult day-intake might be the cornerstone of their policy, in others it is just one of many aspects.

New Zealand has recently become aware (as which Western country has not?) of the concept of "community". This has resulted, among other things, in a limited allocation of funds to selected schools to help them implement a policy of community education. Aorere College is one of the lucky ones, and the financial aid has been used to extend the normal school guidance services, so that they have two full-time and two half-time counsellors and, in addition, are able to give a small time allowance to other staff involved in guidance work.

This exists for the benefit of the children as well as adults, but it does mean that there is a network of people geared to help all students in the choice of appropriate courses and careers, and with any problems, personal or educational, which may arise during their time at school.

Newlands College, Wellington, with only goodwill and some token remuneration, has appointed a dean for adult students. In the event he has to perform many of the functions carried out by Aorere's counsellors, but in addition to his normal teaching load, Hagley High School, Christchurch, has deliberately devoted some of its ordinary resources to supporting the adult intake, and these members of staff with a sizable involvement in it have some remission to help them cope.

Hagley has the largest adult day-intake of any school in New Zealand. Their current roll is 780 adolescents and 220 adults—28 per cent of the total enrolment (75.5 per cent) have committed themselves to four or five subjects, which means full-time attendance throughout the school week.

The vast majority return to school at the 15 plus level. Even if they have never studied the subject before, they are able to slot into the level of knowledge which the children in the class have achieved in the lower forms. They are, however, given considerable help in the choice of subject, the level at which they should enter, its relevance to their future ambitions, and the volume of work they are taking on.

The schools which take the project seriously produce very detailed notes to help potential students find their way around the school curriculum. These include detailed guidelines for the 5th, 6th and 7th form levels, and the overall objectives implicit in study of the subject; whether or not it is preferable to have studied the subject before; and perhaps some indication as to how difficult a student is likely to find the subject.

Students are talked through the maze of regulations governing internal assessment and external examinations at the various qualification levels, and are encouraged to come and discuss their proposed programme personally with the staff if they have any doubts or queries.



Not surprisingly, the majority of people availing themselves of this new opportunity is only since 1974 that there has been official blessing for the idea) are young women—mothers of pre-school and primary children—and as a result the schools with a large intake all operate a crèche. Even in an area where the majority of children are in their teens, the adults who actually come have young children.

Parents are seldom at school with their own children. There appears to be a high proportion of solo parents. It would be useful to know whether this is because of the crèche, or the difficulty of getting out to attend evening classes.

The survey conducted by the Department of Extension Studies in the University of Canterbury on adult learning activities in Christchurch suggests that both potential and actual adult learners tend to think in terms of secondary schools when considering a likely venue, and "it may be that even more participation in adult learning would occur if secondary schools were to make their programmes more widely known, for the evidence of this survey indicates that although the Technical Institute outranks them in popular awareness of their adult study roles, they are nevertheless used on a wider, and totally voluntary basis."

This comment refers to traditional evening class programmes run by the schools as well, but it is noteworthy that a preponderance of adults should still regard school as the main source of adult education, despite the negative associations it undoubtedly has.

Adults in school seem to thrive, though success is clearly related to initial guidance and placement. They are in general very highly motivated, with specific goals, such as the gaining or improving of qualifications, usually—though not always—to help them with job prospects.

English is the most popular subject, and typing, maths and shorthand rank fairly high. Other subjects with a wide appeal are

geography, history, biology and art. Some people are looking rather for personal development and qualifications as a means of entry to higher education. Some teachers feel that many adults enrol with social reasons in mind as well.

Through their commitment, adults learn faster, concentrate harder than children, and progress more quickly. One teacher suggested that this was due not only to the fact that they bring their experience to bear on the subject matter, but also because they are used to making decisions and choices.

Teachers who have adults in their classes all speak enthusiastically about it, although some who teach in the same schools but do not have mixed classes are apprehensive. Those already involved, however, all feel they are kept on their toes by having adults in the class, and find they have to think more about their teaching techniques. They have to adapt to using other people's experience, and to think about the balance of the class. They also tend to use smaller groups, and be more experimental in their teaching.

The teachers all talk about the high motivation of their adult students, and the influence this has on creating higher standards for the whole class. The greater application and faster learning of the adults raise the level of expectations, and simply having other adults in the class and around the school, makes for improved discipline.

Children clearly benefit greatly from many of these factors. But one or two teachers did have a few doubts on their behalf, whilst feeling that overall staff, adults and children gained. Some children do seem to feel that their private domain is being infringed, and not unnaturally resent special adult privileges such as smoking (although most schools confine this to specifically designated "adult areas", viz common room, refreshment area, etc.).

One or two teachers have had to reassure sixth-formers that their chances of a university place will not be diminished because adult students are also seeking to continue their studies at a higher level. This few

children whose parents or relatives do attend the same school are liable to suffer from the derision of their peers.

The mix does work, but it takes time. Adults may be impatient of what the children cannot grasp; children may resent a talkative adult. But both groups are gradually extending their experience in a new way, and learning to understand a different viewpoint. In the long run, adults are likely to become more attuned to modern teenagers and children will, at the very least, become aware that learning does not cease at 16.

The benefits which may accrue to a school indubitably outweigh the low costs of setting up the scheme. Unlike people with unusual expertise and a background which might help them communicate with difficult teenagers, are brought into the school—come to learn, and to teach, where the school is sufficiently flexible to assist with training.

Teachers become aware of learning needs outside the school, and of the many unappreciated skills and talents within the community which can be brought into play through tact and imagination. Outside the walls, an understanding of the functions of education can grow through greater involvement with the process, and a consequent lessening of mistrust.

Nevertheless, many questions are posed. There are very specific problems associated with adult learning, and most school teachers are not even aware of their existence. Some methods which may be appropriate in the teaching of adolescents are at best unhelpful to adults. Teacher education does not include compulsory courses on the teaching of adults, although on past showing it is likely that in the course of their lives the majority of school teachers will at some stage be engaged in teaching adults.

New Zealand, like many other countries, has spare capacity in her teachers' colleges. It would seem appropriate that they should look to meeting the need the adult intake in schools has created for in-service training in adult learning and teaching, and to reviewing the relevance of similar material to initial teacher training.

Again, New Zealand is not alone in having falling secondary school rolls. It could be a valuable exercise for other countries to look at the similar problems of the New Zealand experiment and learn from her experience. The need the project appears to be meeting is that of young mothers who are seeking to equip themselves to re-enter the workforce at a higher level than they left it.

They are people for whom the school experience was not so daunting that they fear to approach it again, nor so long ago that they feel wholly alien to it. They have specific vocational goals of which they are in general aware, and more nebulous and less conscious social and self-developmental needs.

They are adults who would learn more effectively if their teachers were made aware of their peculiar learning difficulties. They are for the most part mothers, and need other crèche facilities or a day whose timing permits them to convey their primary children to and from school.

This is evidently a very specific group, and as such should be fairly easily provided for. Eighteen hundred or so adults are being entered for in day schools in New Zealand, and there is every indication that this number will increase. Furthermore, the Correspondence School in Wellington currently enrolls about 13,000 adults in precisely this area of work. The potential seems very great, and not too difficult to tap, in view of the clear target audience.

Further, the University of Canterbury survey also shows up the preference of adult students within this particular age range to study in a class in their own locality. Given also space in schools, relevant training to teachers, and adequate guidance to students, the New Zealand experience could set a useful trend world-wide for the eighties.

Sylvia Goodman is senior lecturer in staff development and improvement of adult studies, Harrow College of Further Education.

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Classified Advertisements

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Music	Social Studies	Mathematics			
Pastoral	Speech and Drama	Modern Languages			
Physical Education	Technical Studies	Pastoral			
Science	Other than by Subjects	Physical Education			
Other than by Subjects		Religious Education			
		Science			

Nursery Education

Headships

CAMBRIDGE
Nursery Education
Application forms and details from the Director of Education, Cambridge City Council, 100, The Market, Cambridge CB2 3RQ, to be returned by 28th January, 1980.

Deputy Headships Senior Masters/Mistresses

DURHAM
County Council
Application forms and details from the Director of Education, Durham City Council, 100, The Market, Durham, to be returned by 28th January, 1980.

Other Appointments

KIRKLEES
Metropolitan Council
Application forms and details from the Director of Education, Kirklees Metropolitan Council, 100, The Market, Leeds, to be returned by 28th January, 1980.

RICHMOND UPON THAMES
Hampton Wick Infants' School
Application forms and details from the Director of Education, Richmond upon Thames, to be returned by 28th January, 1980.

ENFIELD
County Council
Application forms and details from the Director of Education, Enfield County Council, 100, The Market, Enfield, to be returned by 28th January, 1980.

Primary Education

Headships

BRENT
Borough of Brent
Application forms and details from the Director of Education, Brent Borough, to be returned by 28th January, 1980.

Deputy Headships Senior Masters/Mistresses

DURHAM
County Council
Application forms and details from the Director of Education, Durham City Council, 100, The Market, Durham, to be returned by 28th January, 1980.

Other Appointments

KIRKLEES
Metropolitan Council
Application forms and details from the Director of Education, Kirklees Metropolitan Council, 100, The Market, Leeds, to be returned by 28th January, 1980.

RICHMOND UPON THAMES
Hampton Wick Infants' School
Application forms and details from the Director of Education, Richmond upon Thames, to be returned by 28th January, 1980.

ENFIELD
County Council
Application forms and details from the Director of Education, Enfield County Council, 100, The Market, Enfield, to be returned by 28th January, 1980.

GLoucestershire

County Council
Application forms and details from the Director of Education, Gloucestershire County Council, to be returned by 28th January, 1980.

Hertfordshire

County Council
Application forms and details from the Director of Education, Hertfordshire County Council, to be returned by 28th January, 1980.

Lincolnshire

County Council
Application forms and details from the Director of Education, Lincolnshire County Council, to be returned by 28th January, 1980.

Northamptonshire

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Application forms and details from the Director of Education, Northamptonshire County Council, to be returned by 28th January, 1980.

Nottinghamshire

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Application forms and details from the Director of Education, Nottinghamshire County Council, to be returned by 28th January, 1980.

West Yorkshire

County Council
Application forms and details from the Director of Education, West Yorkshire County Council, to be returned by 28th January, 1980.

Wiltshire

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Application forms and details from the Director of Education, Wiltshire County Council, to be returned by 28th January, 1980.

Worcestershire

County Council
Application forms and details from the Director of Education, Worcestershire County Council, to be returned by 28th January, 1980.

Hertfordshire

County Council
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Application forms and details from the Director of Education, Nottinghamshire County Council, to be returned by 28th January, 1980.

Nottinghamshire

County Council
Application forms and details from the Director of Education, Nottinghamshire County Council, to be returned by 28th January, 1980.

The Borough is within easy access of Central London and bordered by Epping Forest.

Required for April, 1980 —

Co-ordinator of Educational Services to the Under 5's

Over the last few years, the Authority has engaged in an extensive development of Nursery Education together with the creation of a team of Educational Visitors, whose main task is to foster links between home and school. This, in conjunction with Playgroups, gives wide pre-school educational provision within the Borough. A person is sought, to co-ordinate these services, lead the team of Visitors, and to establish and/or maintain liaison with all other agencies dealing with the pre-school child. Teaching experience of 3-5 years is essential, as well as experience of home visiting. Salary from £5,463-£7,218, Burnham Scale 4, plus £8 per month supplement, plus London Allowance of £227. Application forms and further details (please enclose s.a.e.) obtainable from and returnable to the Chief Education Officer, Municipal Office, High Road, Leyton, London E15 6GJ. Closing date: 31st January, 1980.

London Borough of **Waltham Forest**

BIRMINGHAM EDUCATION DEPARTMENT
Lozelle Junior and Infant School—
Under Fives Unit
Wheeler Street, Birmingham B19 2EJ
Pioneer Inner City Project

The following teachers will be required for the above Unit at Lozelle Junior and Infant School from April, 1980.
Scale 3 + SPS, Teacher in Charge of the Unit.
Scale 2 + SPS, Assistant to Teacher in Charge.
This new exciting purpose-built unit will pioneer a further development in collaboration between the Education and Social Services Departments. Jointly staffed by teachers and nursery assistant, it will cater for approximately 20 children in the normal age range for a nursery class and 20 under three years of age.

The Teacher in Charge (Scale 3) will be a senior member of the Primary Schools staff and as such responsible to the Headteacher for the educational programme and the day-to-day organisation and control.

The Head will be pleased to answer further enquiries (Telephone: 021-554 1880).
Application forms, which should be returned by Friday, 28 January, 1980, and further information obtainable from the Chief Education Officer, Staffing Branch, Room B18, Education Department, Birmingham B5 3BU.

BIRMINGHAM CITY COUNCIL

Officer, 'Lismore', & Heath-

Lane, Hornchurch, Essex. Telephone: Hornchurch 4306d.
Head Teacher: H. Rogers, B.Sc.
Required as soon as possible:—
TEACHER OF TECHNICAL SUBJECTS
Sole 1
To join a well-established team in a school with good facilities. Preference will be given to candidates with a strong interest in motor mechanics.

TEACHER OF MATHEMATICS Scale 1
with an opportunity for work at all levels throughout the school.

**ST. SACRED HEART OF MARY R.C. SCHOOL, (Roll 547 Girls),
St. Mary's Lane, Uplimaster, Essex. Telephone : Uplimaster
22690. Head Teacher : Sister St. Esprit, M.A.
Required Autumn Term, 1980 :-**

**GRADUATE TEACHER AS HEAD OF
RELIGIOUS EDUCATION**

Scale 3

Applicants will be responsible for organising the department, and to

Level. Ability to help in the liturgical life of the school and with the organization of religious activities.

Applications are invited from experienced Teachers to serve as members of the Borough's Support Team. There are posts vacant for teachers of:—

MATHEMATICS/SCIENCE
MODERN LANGUAGES (preferably French)
HUMANITIES
GENERAL SUBJECTS

The Authority is primarily seeking teachers skilled in adapting to new classroom situations and able readily to give an effective contribution to a new setting with new groups of pupils. Candidates with good qualifications and substantial experience, preferably already holding posts of responsibility, may be considered for a Scale 3 Post. Application forms (s.a.e.) are available from the Director of Educational Services at the above address.

LANGTONS JUNIOR SCHOOL (Roll 435), Westland Avenue, Herringchurch, RM11 3SD

HEADTEACHER
For this Group 6, three-form entry Junior School.

ST. PETER'S R.C. J.M. & I. SCHOOL (Roll 212), Dorset Avenue, Ramford, RM1 4JA.
Required Summer Term, 1980 :—

HEADTEACHER
For this Group 4 Roman Catholic J.M. & I. School built in 1967 with extensive grounds in a residential area. Applicants must be practising Catholics, have substantial experience in Catholic Primary Schools and be a Deputy Head or holder of a post of responsibility. Completed application forms to be returned by 26th January, 1980. For further details see our display advertisement under primary schools Headships.

NEWTONS J.M. & I. SCHOOL (Roll 324), Lowen Road, Rainham, Essex, RM13 6QR telephone: Rainham 58913.
Head Teacher: J. A. Redding R. A. Redding

EXPERIENCED INFANTS/JUNIOR

to take responsibility for Mathematics and Science throughout the school. infant experience an advantage. Scale 2 Post.

SQUIRRELS HEATH JUNIOR SCHOOL (Roll 436), Salisbury Road, Romford, RM2 5TP. Telephone: Hornchurch 46572. Head Teacher: F. H. Doody.

Required Summer Term, 1980, or earlier.—

EXPERIENCED JUNIOR CLASS TEACHER Scale 2

to take responsibility for Music throughout the school which has a very strong musical tradition.

Miscellaneous :

Are you interested in working in an expanding Youth and Community Service as a Youth and Community Worker based on the campus of a school? Such an Area based Youth and Community Worker POST now exists in the LONDON BOROUGH OF SUTTON.

working closely with the School, Youth Centre, and voluntary organisations using the premises, Parent Teacher Organizations and community groups in the neighbourhood around the School premises.

Havering strong support. J.N.C. Conditions of Service. Salary F.E. Lecturer Grade 1 (£3,879 to £5,391 inclusive per annum). Starting point dependent on training and experience. Full details and application forms for this post only are available from the Director of Educational Services, H.E.C.C.T. at the above address.

HAVERING
London Borough of

HAVERING
London Borough of
HAINLOW LINDSEY SCHOOL.
(11 and 13 boys)
London W17, Hornchurch, Essex.
Until 15/9
TEACHER of SCIENCE, Scale 1,
with further 15 pupils for who
play basketball under B.C.O.N.
HARY vacancies.

HAVERING
London Borough of
THE DEAVE SCHOOL

(Post: 1997, C5-25)
 1000, 1000, Harold Hill
 Harford, Essex
 TEACHER of CHEMISTRY GEN
 ERAL SCIENCE, Scale 1
 Scale 1 available.
 For further details see our dis
 play advertisement under Secondary
 Vacancies.

HAVING
 (London Borough of)
 (HAROLD CROSS SCHOOL
 (Rd 1, 250 C, B.)
 Having Road North, Harford.
 TEACHER of PHYSICS Scale 1
 For further details see our display
 advertisement under SECONDARY
 vacancies.

GEORGE GREEN'S SCHOOL, (HM)
Mingchester Road, London E14 0DW
Tel.: 01-987 6032
Roll 770 growing to 850; years on
to five comprehensive, sixth grammar
required for April:
Teacher of Remedial Education
(Scale 1).
Remedial help is given in special
sessions for small groups of
pupils withdrawn from mixed ability
classes in the first three years, and
a few fourth and fifth years with
particular reading difficulties are
also the concern of the department.

WINDROCKE SCHOOL
 Carroll Road, London SE3 6LP
 Tel: 01-336 2211
 10 form entry
 From: Girls, aged 11 to 18 years
 recruited as soon as possible.
 Part-time teacher (11 days per
 week) to work in the Remedial
 Department.

SCIENCE

Posts of Responsibility
RATTERSEA COUNTY SCHOOL
 Culver Road, Weymouth, SW11 6AP
 Tel.: 01-624 0235
 101: 1,150 boys and girls, 11
 110: comprehensive
 Headmaster
 Head of Lower School Science
 (Scale 5)
 Required as soon as possible:
 A well-qualified, experienced at
 eighth grade level, to be respon-
 sible for the monitoring and de-
 velopment of the Lower School
 Science curriculum.
 Further details from the school

rel: OJ-101 OYD
res: 1, 104 boys and girls
Comprehensive
Counselor
Courses to CAS, "Q" and "A"
Invited
Mixed ability organization.
Required for Senior, (1961)
Teacher of Physics (Scale 2), A

WESTMINSTER CITY SCHOOL
Our form entry
of: H. Comprehensive to The
of Palace Street, SW1E 5LJ
Headmaster
Chemistry teacher for Nursing
course to Advanced Level with some
involvement in Biology
Junior school, Scale 2

Scale 1
DALTON MOUNT SCHOOL
Blackwell Lane, Ed.
Trenton, N.J.
Required now
Full or part-time teacher of Science
Mathematics, Dalton from the
school.

SOCIAL SCIENCE

Scale 1
WATERFIELD (SM)
WATERFIELD CHAM. Thompson

Tel: 01-50 1700
 Headquarters
 for Easter 1980:
 An enthusiastic and preferably experienced teacher (Grade 1) of the Social Sciences and Social Studies, a colleague with a minimum of experience in a position who is willing to join the team of teachers that comprise the Faculty of Humanities and Behavioral Sciences, and a candidate to be hired in the range of expertise that offered. The Humanities Faculty offers an integrated program in the Social Sciences and Humanities in the first year. As well as making a significant contribution to carrying out core studies in the fourth and fifth year of Faculty and to various subjects at public seminars.

OTHER POSTS

Posts of Responsibility
HAINSFIELD SCHOOL
Waltham Road, H192
Tel: 01-794 8133
Comprehensive
Boys & Girls
Teacher
Teacher (Scale 2)

functioned as such as rosalia is special, used for birthday/unhappy occasions, having younger children (first and second year) with functions under the control of an experienced social worker in a private home near the house. But the apply is of rosalia mandandem already work in marriages of the trusts — including nice in the area. The person applied to the children to function successfully in main school as soon as possible. The unit has now been running for three consecutive years. The person is able to teach basic skills and give a mindbox.

Supply Teachers:
Experienced, qualified teachers sought living within commuting distance of the London Borough of Hammersmith to cover absences in primary and secondary schools.
Application forms from the Districtal Officer (115), Oakway House, 41 Stamford Hill, N10. Tel. 01-834 1431.

Tel.: 01-608 9311
 Tel.: 2,000; low Sixth Form
 Required for Easter, 1980:
 1. A male
 2. A teacher for mathematics, interest in
 computers. This would be an
 advantage but not essential.
 3. A teacher for English or French or
 Latin or Spanish or German or
 Science or History or Art or
 Music or Physical Education or
 Modern Languages or any other
 subject.
 4. A teacher for the school
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SPECIAL EDUCATION
Scale 2 Posts
continued

ESSEX
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

GLoucestershire
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

Hampshire
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

Scale 1 Posts

BRADFORD (City of)
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

Hillingdon
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

Sunderland
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

INDEPENDENT
continued

**Deputy Headships
Senior Masters/
Mistresses**

English

AVON COUNTY
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

Geography

DEVON
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

MIDDLESEX
NORTH LONDON COLLEGIATE
continued

DEPUTY HEADSHIP
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

Music

HEADS OF DEPARTMENT
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

Pastoral

CORNWALL
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

HERTFORDSHIRE
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

PERTSHIRE
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

PHYSICAL EDUCATION
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

KENT
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

HEAD OF P.E.
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

KING EDWARD VI SCHOOL
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

SOUTHAMPTON SO9 3FP
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

Mathematics
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

Classics
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

County of
Cleveland
SPECIAL SCHOOLS

ENDEAVOUR SCHOOL for Physically Handicapped
(and partially sighted)
Tot Hill Avenue, Ormesby, Middlesbrough, Cleveland

DEPUTY HEAD TEACHER GROUP 7s
The Endeavour School is a purpose-built school for physically handicapped, deaf, epileptic, partially sighted and language-impaired children, situated on a campus with a primary and comprehensive school. Due to promotion, a Deputy Head is required. Applicants should either hold a qualification in the field of special education or have teaching experience with one or more of the above mentioned categories of handicaps. Experience in working as a member of a multi-disciplinary team would also be an advantage.

SUMMERHOUSE SCHOOL
Physically handicapped 3-16 years
Ragworth Road, Norton, Stockton, Cleveland TS20 1HR
(Re-advertisement)

DEPUTY HEAD TEACHER GROUP 5s
Required for Easter, 1980, a suitably qualified and experienced teacher for this day special school. Applicants should have particular interest in curriculum development with physically handicapped pupils. Further details obtainable from the Head Teacher.

SCALE 1 POSTS + SSA (TWO POSTS)
THORNHILL SCHOOL
Elwick Road, High Tunstall, Hatfield, Cleveland
A modern purpose-built building for physically handicapped, deaf, and sensory handicapped and others. Required as soon as possible.

Teacher to take responsibility for basic work with a group of intellectually handicapped secondary pupils. The teacher will also be required to teach environmental work, including field studies throughout the secondary department, and to develop a CSE Mode 3 syllabus to teach art and handicrafts as a member of a team.

2. Teacher required to take responsibility for language development with a group of secondary pupils and to assist with remedial reading. The teacher will also be required to teach art and handicrafts, including pottery and to take responsibility for school art and craft resources.

Financial assistance with household removal expenses is available in approved cases. Application may be made by letter or on application forms obtainable from the Head Teacher at the addresses shown above. Application by letter should include detailed information regarding education, training qualifications and experience, together with the names and addresses of three referees.

Letters of application and completed application forms should be submitted direct to the Head Teacher not later than 28th January, 1980.

Department for Non-Communicating Children
Teacher
Required for Easter, to work as a member of a team of 3 teachers supported by Nursery and General Assistants in this department which caters for children with communication and emotional difficulties. It would be an added advantage if applicants had some experience in this field but all applications will be considered.

Department for Specific Language Difficulties
Temporary Teacher
Required for Summer term only; to work as a member of a team of 3 teachers supported by General Assistants in this department which caters for children in the 5-9 years age range who have language impairment.

Salary for both posts: Scale 1 plus special schools allowance, plus London allowance.
Scale 2(s) for suitably qualified and experienced candidates.

Application forms and further details available from the Headmaster at the School, on receipt of an A.S.E. Closing date 28th January, 1980.

London Borough of Waltham Forest

WALTHAM FOREST

HERTFORDSHIRE
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

PERTSHIRE
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

PHYSICAL EDUCATION
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

KENT
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

HEAD OF P.E.
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Closing date 28th January 1980.

KING EDWARD VI SCHOOL
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SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

SOUTHAMPTON SO9 3FP
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

Mathematics
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SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
Headmaster: Mr. P. R. Turner, M.Ed.
Closing date 28th January 1980.

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Closing date 28th January 1980.

English
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
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Closing date 28th January 1980.

Biology
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
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Physical Education
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12 years; 10 days)
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Closing date 28th January 1980.

Modern Languages
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
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Closing date 28th January 1980.

BUCKINGHAMSHIRE
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GEOMETRY
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HEAD OF P.E.
WATFORD RESIDENTIAL
SCHOOL, WATFORD, Herts.
(11-12

INDEPENDENT continued

Religious Education

HAMPSHIRE
WIMBORNE COLLEGE
WIMBORNE, HAMPSHIRE
Further details from Headmaster,
Wimborne College, Wimborne,
Dorset, BH20 1JG.

NOTTINGHAMSHIRE
WIMBORNE COLLEGE
WIMBORNE, HAMPSHIRE
Further details from Headmaster,
Wimborne College, Wimborne,
Dorset, BH20 1JG.

Science

Heads of Department

NORTH YORKSHIRE
SHEFFIELD COLLEGE
SHEFFIELD, NORTH YORKSHIRE
Further details from Headmaster,
Sheffield College, Sheffield,
South Yorkshire, S1 1JG.

SURREY
SURREY COLLEGE
SURREY, SURREY
Further details from Headmaster,
Surrey College, Surrey,
Surrey, GU1 1JG.

WIMBORNE COLLEGE
WIMBORNE, HAMPSHIRE
Further details from Headmaster,
Wimborne College, Wimborne,
Dorset, BH20 1JG.

DEPUTY HEAD GROUP 2
A Deputy Head Teacher is required for this school with approximately 80 pupils on roll.

PRIMARY SCHOOLS
LOWER PLACE COUNTY PRIMARY (4-10)
Kingway, Rochdale OL16 4UU. Tel. Rochdale 40174.

1. Scale 2
A general class teacher in the Junior Department, to have the responsibility for music, choral and/or orchestral work. To work in co-operation with the teacher with a similar responsibility in the Infant Department.

2. Scale 2
A general class teacher in the Junior Department, who has a great interest in Language Development in its many aspects. The person appointed will be required to liaise with the teacher with similar responsibility in the Infant Department.

For Nursery and Primary posts, application forms are available on receipt of a leaflet stamped addressed envelope, from the Chief Education Officer, Education Department, P.O. Box 70, Municipal Offices, 8 Smith Street, Rochdale OL1 1YD, and on completion to be returned to the Head Teacher at the school. Closing date: 28th January, 1980.

MIDDLE SCHOOLS
DURNFORD HIGH (11-14)
Rectory Street, Middleton; Manchester M24 3TS. Tel. 061-643 3945. Required for Easter 1980.

YEAR TUTORS, Scale 3

HIGH SCHOOLS
QUEEN ELIZABETH'S HIGH (14-18)
Boardman Fold Road, Altrincham, Middleton, Manchester M24 1PR. Tel. 061-643 2643.

SECOND IN CHEMISTRY DEPARTMENT
TEACHER-IN-CHARGE OF TECHNOLOGY, Scale 2

SPECIAL EDUCATION
ALDERMAN KAY E.S.N. (M) (all age)
Tintin Road, Hollin, Middleton, Manchester M24 3JG. Tel. 061-643 4977.

Scale 1
Required for April, 1980 (or sooner), a teacher with responsibility for the general teaching and welfare of a class of senior girls.

In addition, the person appointed will be required to teach a limited amount of Domestic Science in the senior end of the school.
Salary: Burnham Scale 1 plus Special Schools Allowance.
For Middle, High and Special Schools, application forms and further details are available on receipt of a leaflet stamped addressed envelope from the Head Teacher at the school, to whom they should be returned on completion. Closing date: 28th January 1980.

will replace existing buildings during 1980. Burnham Scale 1 plus Special Schools Allowance. The post is likely to be a Scale 2.
Major staff live on the site and full accommodation is available for other staff or a married couple.
Apply with curriculum vitae and references to the Headmaster, from whom full details may be obtained.

Other Assistants

BIRMINGHAM
KING EDWARD VI HIGH SCHOOL
BIRMINGHAM, MIDLANDS
Further details from Headmaster,
King Edward VI High School,
Birmingham, B15 2TH.

LONDON
LONDON COLLEGE
LONDON, LONDON
Further details from Headmaster,
London College, London,
London, EC1A 3JG.

WIMBORNE COLLEGE
WIMBORNE, HAMPSHIRE
Further details from Headmaster,
Wimborne College, Wimborne,
Dorset, BH20 1JG.

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HERTFORDSHIRE
HARTFORD SCHOOL FOR GIRLS
HARTFORD, HERTFORDSHIRE
Further details from Headmaster,
Hartford School for Girls,
Hartford, Hertfordshire, SG13 7JG.

LONDON
LONDON COLLEGE
LONDON, LONDON
Further details from Headmaster,
London College, London,
London, EC1A 3JG.

WIMBORNE COLLEGE
WIMBORNE, HAMPSHIRE
Further details from Headmaster,
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MIDDLE SCHOOLS
DURNFORD HIGH (11-14)
Rectory Street, Middleton; Manchester M24 3TS. Tel. 061-643 3945. Required for Easter 1980.

YEAR TUTORS, Scale 3

HIGH SCHOOLS
QUEEN ELIZABETH'S HIGH (14-18)
Boardman Fold Road, Altrincham, Middleton, Manchester M24 1PR. Tel. 061-643 2643.

SECOND IN CHEMISTRY DEPARTMENT
TEACHER-IN-CHARGE OF TECHNOLOGY, Scale 2

SPECIAL EDUCATION
ALDERMAN KAY E.S.N. (M) (all age)
Tintin Road, Hollin, Middleton, Manchester M24 3JG. Tel. 061-643 4977.

Scale 1
Required for April, 1980 (or sooner), a teacher with responsibility for the general teaching and welfare of a class of senior girls.

In addition, the person appointed will be required to teach a limited amount of Domestic Science in the senior end of the school.
Salary: Burnham Scale 1 plus Special Schools Allowance.
For Middle, High and Special Schools, application forms and further details are available on receipt of a leaflet stamped addressed envelope from the Head Teacher at the school, to whom they should be returned on completion. Closing date: 28th January 1980.

Other than by Subject Classification

DORSET
WIMBORNE COLLEGE
WIMBORNE, HAMPSHIRE
Further details from Headmaster,
Wimborne College, Wimborne,
Dorset, BH20 1JG.

LONDON
LONDON COLLEGE
LONDON, LONDON
Further details from Headmaster,
London College, London,
London, EC1A 3JG.

WIMBORNE COLLEGE
WIMBORNE, HAMPSHIRE
Further details from Headmaster,
Wimborne College, Wimborne,
Dorset, BH20 1JG.

DEPUTY HEAD GROUP 2
A Deputy Head Teacher is required for this school with approximately 80 pupils on roll.

PRIMARY SCHOOLS
LOWER PLACE COUNTY PRIMARY (4-10)
Kingway, Rochdale OL16 4UU. Tel. Rochdale 40174.

1. Scale 2
A general class teacher in the Junior Department, to have the responsibility for music, choral and/or orchestral work. To work in co-operation with the teacher with a similar responsibility in the Infant Department.

2. Scale 2
A general class teacher in the Junior Department, who has a great interest in Language Development in its many aspects. The person appointed will be required to liaise with the teacher with similar responsibility in the Infant Department.

For Nursery and Primary posts, application forms are available on receipt of a leaflet stamped addressed envelope, from the Chief Education Officer, Education Department, P.O. Box 70, Municipal Offices, 8 Smith Street, Rochdale OL1 1YD, and on completion to be returned to the Head Teacher at the school. Closing date: 28th January, 1980.

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Other than by Subject Classification

SCOTTISH APPOINTMENTS

LOTHIAN REGIONAL COUNCIL DEPARTMENT OF EDUCATION TEACHING APPOINTMENTS

Applications are invited from registered teachers for the following posts.

PRIMARY

HEAD TEACHER
Reference C Danderhill Primary School, Mayfield
Reference C St. Luke's R.C. Primary School, Mayfield

TEACHER
Reference C St. Margaret's R.C. Primary School, Leith
(Full-time, temporary post)

SECONDARY

PRINCIPAL TEACHER
Reference B Aisle Park High School—Guidance/Special Unit
Reference B Broughton High School—Guidance

Reference B Our Lady's High School, Broxburn
Reference B Our Lady's High School, Broxburn
Reference B St. Thomas of Aquinas—Religious Education

ASSISTANT PRINCIPAL TEACHER
Reference B Holy Road High School—Social Studies
Reference B Lasswade High School—Enhancement of 100

Reference B Our Lady's High School, Broxburn
Reference B St. Margaret's Academy, Blackburn—Mathematics

Reference B St. Mary's Academy, Bathgate
Reference B West Calder High School—Guidance
Reference B Western High School—Enhancement of 100

TEACHER
Reference B Blackburn Academy—Technical Education
Reference B Broughton High School—Physics/Chemistry
Reference B Castlelea High School—English

Reference B Currie High School—Technical Education
Reference B Danderhill Primary School—French and English
Reference B Danderhill Primary School—French and English

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SCOTTISH APPOINTMENTS

Applications for posts in state or grant-aided primary or secondary schools must satisfy the registration requirements of the General Teaching Council for Scotland, 5 Royal Terrace, Edinburgh.

Administration

General

EDINBURGH

GENERAL EDUCATION
EDINBURGH ASSOCIATION
Required to administer a research group of academic staff.

Applications including full curriculum vitae and references should be sent to the General Education Association, 5 Royal Terrace, Edinburgh.

THE SCOTTISH FIELD STUDIES ASSOCIATION LTD.
Applications are invited for the position of Field Studies Officer.

KINDROCKHIE FIELD CENTRE
Applications are invited for the position of Field Studies Officer.

BORDERS REGIONAL COUNCIL PRIMARY SCHOOLS
Teaching Posts

TEACHER
ASHKIRK PRIMARY SCHOOL by SELKIRK
Head Teacher—Mrs. J. McNaughton—Ashkirk 275

TEACHER OF THE NURSERY CLASS
PARKSIDE PRIMARY SCHOOL, JEDBURGH
Head Teacher—Mr. K. Forthright—Jedburgh 3318

VISITING TEACHER OF PHYSICAL EDUCATION
Duns area.
Closing date for the above posts, Monday, January 21, 1980.

SECONDARY SCHOOLS
Promoted Posts

PRINCIPAL TEACHER OF ENGLISH
JEDBURGH GRAMMAR SCHOOL (Rd 500)
Jedburgh 3273

ASSISTANT PRINCIPAL TEACHER OF MUSIC
(Single Teacher Department)
JEDBURGH GRAMMAR SCHOOL
Responsibility Payment £433 per annum

TEACHING POSTS
TEMPORARY TEACHER OF BIOLOGY
GALASHIELS ACADEMY (Roll 1,200)
Galashiels 4788

BUSINESS STUDIES
KELSO HIGH SCHOOL (830)
Kelso 2444

CHEMISTRY/SCIENCE
HAWICK HIGH SCHOOL (Roll 1,430)*
Hawick 2429

ENGLISH
BERWICKSHIRE HIGH SCHOOL (Roll 750)
Duns 3710

LATIN/FRENCH
EYEMOUTH HIGH SCHOOL (Roll 535)*
Eyemouth 50363

MATHEMATICS
GALASHIELS ACADEMY*
MUSIC

HAWICK HIGH SCHOOL*
TECHNICAL EDUCATION
KELSO HIGH SCHOOL*

*House available.

Application forms for all posts may be obtained from the Personnel Manager, Regional Headquarters, Newtown St. Boswells. Completed forms should be returned to the Director of Education at Regional Headquarters by Monday, January 28, 1980.

Other Appointments

BARKING AND DACRIDGE COLLEGE
Applications are invited for the position of Head of Department.

BIRMINGHAM
Applications are invited for the position of Head of Department.

BOLTON
Applications are invited for the position of Head of Department.

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Applications are invited for the position of Head of Department.

Colleges of Further Education

Directors and Principals

DORSET
WIMBORNE COLLEGE
WIMBORNE, HAMPSHIRE
Further details from Headmaster,
Wimborne College, Wimborne,
Dorset, BH20 1JG.

MANCHESTER
MANCHESTER COLLEGE
MANCHESTER, MANCHESTER
Further details from Headmaster,
Manchester College, Manchester,
Manchester, M1 1JG.

MANCHESTER
MANCHESTER COLLEGE
MANCHESTER, MANCHESTER
Further details from Headmaster,
Manchester College, Manchester,
Manchester, M1 1JG.

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Manchester, M1 1JG.

MANCHESTER
MANCHESTER COLLEGE
MANCHESTER

THE UNIVERSITY OF OSNABRÜCK ABTEILUNG VECHTA

Invites applications for a position as
LEKTOR IN ENGLISH

(Pay scale: BAT 1a)

beginning March 1st, 1980

Qualifications: native speaker of English, university degree
Teaching experience and knowledge of German desirable.
Duties: teaching English-language skills, including courses
in language lab. Courses in British/American life and
institutions (Landeskunde).

Length of contract: 2 years, with possibility of extension.
Application deadline: 4 weeks after date of publication.
Applications together with a detailed curriculum vitae
and certificates to:

Dekan des Fachbereichs 2 (Kommunikation und Aesthetik), Universität Osnabrück, Abteilung Vechta, Postfach
13 49, 2848 Vechta, W. Germany.

**College of St. Mark
& St. John**
Dorridge Road, Plymouth PL6 8BH
Telephone: 0752 771186

APPOINTMENT OF CHAPLAIN

The College of St. Mark and St. John seeks to appoint
a Chaplain. The College is an Anglican college of higher
education based in Plymouth. It relates to both the
Dioceses of Truro and Exeter and seeks to provide a
modern, community oriented approach to higher education.
The College has links with other Further and Higher
Education Institutes in Plymouth, particularly Plymouth
Polytechnic, and there will be the opportunity to work
with students in other institutions. Depending on qualifi-
cations there will be opportunity to teach in the College
and to take part in other activities but it is important that
the successful candidate should have a lively interest in
modern higher education and the needs of students.
Details may be obtained from the Principal's Secretary.
There are no application forms and letters of application
and a curriculum vitae should reach the Principal of the
College of St. Mark and St. John within two weeks of the
publication of this advertisement. Candidates should state
their age, qualifications and experience and any other
relevant information together with the names and addresses
of two referees.

THE OPEN UNIVERSITY

**Summer School
Tutorial Staff**

Appointments for one or two weeks are
available at the Open University's
summer schools held at universities
throughout Great Britain between
5 July and 8 September.

Tutor Posts in the Faculties of
Arts, Mathematics and Science.
There will be a number of TUTOR posts in
the following subjects: Art and
Design, Drama, History, Literature and
Philosophy.

Mathematics courses coded M101,
M201, M203 and M283.
Biology (all sub-disciplines including
Genetics), Chemistry (organic, in-
organic and physical), Earth Sciences
and Physics.

Tutor Posts in the Faculty of
Technology.
Tutors qualified in Elementary Mathe-
matics and Modelling (for technolo-
gists) (TM261), Materials Science
(TS261), Systems (design, planning,
modelling of social or technical systems
including project work in groups), and
Engineering Mechanics (solids) (T232).

T283 - Introductory Electronics, and
T291 - Instrumentation.
Tutors qualified in electronics and/or
instrumentation; previous teaching ex-
perience an advantage.

TAD282 - Art and Environment.
Tutors to facilitate creative projects in:
dance and movements, theatre and
performance arts; New Games; sound;
still photography; video/film; com-
munity print; drawing; environmental
mapping and perception; sculpture;
poetry and creative writing; partici-
pation in the future; food; environment;
and community radio.

**Tutor Posts in the Faculty of Social
Sciences.**

D101 - Making Sense of Society.
Tutors qualified in one or more of:
economics, geography/urban planning,
politics/international relations, psy-
chology, sociology; to teach in one of
the three interdisciplinary modules:
housing, crime and society, a political
simulation exercise on the Bosnian
crisis 1908-9.

DS261 - An Introduction to Psychology,
and D303 - Cognitive Psychology.
Tutors qualified in experimental
psychology; for D303 computer ex-
perience desirable.

D204 - Fundamentals of Human
Geography.
Tutors qualified to teach modern
geography, especially with reference
to urban retailing, rural social geo-
graphy and statistical techniques.

Demonstrator Posts
Applications for posts as DEMON-
STRATORS are invited from graduates
in Science to work in the areas of
Biology, Chemistry, Physics and Earth
Sciences; from graduates in Science
and Engineering to work in the areas of
Acoustics, Measurement, Electronics,
Materials Science, Systems, Structures,
Energy Conversion, Metallurgy, Design,
Production Systems, Environ-
mental Science and Computing; also
from graduates in Psychology.

Application Procedure
For further particulars and an
application form send a postcard to
the Tutors Office (SS 1), P.O. Box 82,
Milton Keynes, MK7 6AU. Completed
application forms must reach the Open
University by Monday 4 February 1980.

**UNIVERSITIES
Appointments
continued**

SOUTHAMPTON

THE UNIVERSITY OF
SOUTHAMPTON
Applications are invited for the
position of Lecturer in the
Department of English. The
successful candidate will be
responsible for the teaching of
English literature and for the
supervision of postgraduate
students. The post is full-time
and involves a salary of £11,700
per annum. Applications should be
sent to the Director of Studies,
Department of English, University
of Southampton, Southampton SO9
5NH.

**Fellowships
Studentships and
Research Awards**

**NEWCASTLE UPON
TYNE**

THE UNIVERSITY OF
NEWCASTLE UPON TYNE
Applications are invited for the
position of Lecturer in the
Department of English. The
successful candidate will be
responsible for the teaching of
English literature and for the
supervision of postgraduate
students. The post is full-time
and involves a salary of £11,700
per annum. Applications should be
sent to the Director of Studies,
Department of English, University
of Newcastle upon Tyne, Newcastle
upon Tyne NE1 7RU.

OXFORD
Applications are invited for the
position of Lecturer in the
Department of English. The
successful candidate will be
responsible for the teaching of
English literature and for the
supervision of postgraduate
students. The post is full-time
and involves a salary of £11,700
per annum. Applications should be
sent to the Director of Studies,
Department of English, University
of Oxford, Oxford OX1 2JD.

**Colleges of
Higher Education**

ESSEX

THE UNIVERSITY OF
ESSEX
Applications are invited for the
position of Lecturer in the
Department of English. The
successful candidate will be
responsible for the teaching of
English literature and for the
supervision of postgraduate
students. The post is full-time
and involves a salary of £11,700
per annum. Applications should be
sent to the Director of Studies,
Department of English, University
of Essex, Colchester CO1 1QD.

**REDFORD AND
WILTON**

THE UNIVERSITY OF
REDFORD AND WILTON
Applications are invited for the
position of Lecturer in the
Department of English. The
successful candidate will be
responsible for the teaching of
English literature and for the
supervision of postgraduate
students. The post is full-time
and involves a salary of £11,700
per annum. Applications should be
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Department of English, University
of Redford and Wilton, Redford
and Wilton, Redford and Wilton.

Teachers' Centres

HERTFORDSHIRE

THE HERTFORDSHIRE
TEACHERS' CENTRE
Applications are invited for the
position of Lecturer in the
Department of English. The
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Department of English, University
of Hertfordshire, Hertfordshire.

Adult Education

HERTFORDSHIRE

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THE TIMES EDUCATIONAL SUPPLEMENT 11.1.80

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